



# ***Maryland Department of Transportation***

***State Highway Administration  
Baltimore, Maryland  
Request for Proposals***

**Contract No. CH3505174  
F.A.P. No. N/A**

**Competitive Sealed Proposal Procurement**  
**Step 2: Request for Technical and Price Proposal - DRAFT**

**Stormwater Management Design, Build, Operate and  
Maintain Project**

**Charles County**

**Minority Business Enterprises are encouraged to respond to this Solicitation Notice.**

**The State Highway Administration will only be responsible for the completeness of documents obtained directly from the State Highway Administration Cashier's Office. Failure to attach all addenda may cause the bid to be irregular.**

**VENDOR I.D. NUMBER**

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**S.H.A. USE ONLY**



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# REQUEST FOR PROPOSALS

## Table of Contents

Request for Proposals.....	Cover
Table of Contents .....	ii

### CONTRACT PROVISIONS

CP - National Cooperative Highway Research Program (NCHRP) Report 350 Implementation Schedule.....	7
CP - Occupying Wetlands.....	9
CP - Affirmative Action Requirements Utilization of Minority Business Enterprises for Straight State Contracts (where the Contractor's bid exceeds \$50,000) .....	12
CP - MBE/DBE Compliance Field Meeting.....	20
CP - Traffic Control Plan Certification.....	21
CP - Prevailing Wage Instructions for the Contractor.....	22
CP - Contractor Affirmative Action Program.....	25
CP - High Visibility Safety Apparel Policy.....	33

### SPECIAL PROVISIONS

SP-NOTICE TO CONTRACTOR – Early Submissions.....	35
Specifications.....	36

### GENERAL PROVISIONS

GP-2.19 Bidding Requirements and Condition for Design Build – Competitive Sealed Proposals .....	39
---	----

### TERMS AND CONDITIONS

TC Section 2 – Bidding Requirements and Conditions for Design, Build, Operate and Maintain	
TC-2.03 Value Engineering Change Proposals .....	40
TC-2.06 Partnering .....	40
TC-2.07 Request for Proposals (RFP) .....	41
TC-2.08 Proposal Submittal Requirements .....	46
TC-2.09 Technical Proposals .....	52
TC-2.10 Evaluation of Technical Proposals .....	57
TC-2.11 Price Bids .....	57
TC-2.12 Evaluation of Proposals and Award .....	58
TC Section 3 – Scope of Work for Design, Build, Operate and Maintain	
TC-3.02 Construction Documents to Successful Bidder .....	67
TC-3.03 Contingent Items .....	67
TC-3.06 Design, Build, Operate and Maintain Scope of Work.....	67

# REQUEST FOR PROPOSALS

## Table of Contents

TC-3.07 Administration Services.....	95
TC-3.08 Deliverables .....	97
TC-3.09 Routine Maintenance Performance Specification.....	102
TC-3.10 Remedial Maintenance Performance Specification .....	103
TC-3.11 Landscaping Design Performance Specification .....	105
TC-3.12 Geotechnical Performance Specification .....	126
TC-3.13 Maintenance of Traffic (MOT), Haul Routes and Access During Construction Performance Specification.....	131
TC-3.14 Retrofit Performance Specification.....	135
TC-3.15 Inventory and Inspection Performance Specification.....	150
TC-3.16 Construction Requirements .....	152
TC Section 4 - Control of Work for Design Build	
TC-4.01 Working Drawings .....	157
TC-4.02 Failure to Adequately Maintain Project.....	158
TC Section 5 – Legal Relations and Progress for Design Build	
TC-5.01 Insurance .....	159
TC-5.03 Subcontracting and Subcontractors .....	162
TC-5.06 Ownership of Documents .....	162
TC-5.07 Access to and Retention of Records .....	162
TC Section 6 – Restrictions and Permits for Design Build	
TC-6.10 Recycled or Rehandled Materials .....	163
TC Section 7 – Payment for Design, Build, Operate and Maintain	
TC-7.01 Measurement of Quantities .....	164
TC-7.02 Payment Allowances for Stored Materials.....	164
TC-7.05 Progress Payments .....	164
TC-7.09 Cost Breakdown and Schedule of Payments.....	165

**REQUEST FOR PROPOSALS**  
**Table of Contents**

**CATEGORY 100 PRELIMINARY**

SPI-Section 104-Maintenance of Traffic.....	169
SP-Section 104-Maintenance of Traffic 104.01 Traffic Control Plan (TCP) .....	170
SPI-Section 107-Construction Stakeout.....	173
SP-Section 111-Digital Camera (*).....	175
SP-Section 112-Critical Path Method Project Schedule Design Build.....	177

**CATEGORY 200 GRADING**

SP-Section 203-Borrow Excavation.....	184
---------------------------------------	-----

**CATEGORY 300 DRAINAGE**

SPI-Section 303-Pipe Culverts.....	188
SP-Section 308-Erosion and Sediment Control General Notes ( <b>Without Plans</b> ) .....	188
SPI-Section 308-Erosion and Sediment Control.....	195

**CATEGORY 700 LANDSCAPING**

SPI-Section 701-Topsoil and Subsoil.....	203
SPI-Section 704-Temporary Seeding and Temporary Mulching .....	206
SPI-Section 705-Turfgrass Establishment.....	208
SPI-Section 708-Turfgrass Sod Establishment.....	216
SPI-Section 710-Tree, Shrub, and Perennial Installation and Establishment.....	219
SPI-Section 711-Annual and Bulb Installation and Establishment.....	232

**UTILITIES**

SP-Section 875-Utility Statement.....	237
---------------------------------------	-----

**CATEGORY 900 MATERIALS**

SPI-Section 901-Aggregates.....	242
SPI-Section 902-Portland Cement Concrete and Related Products.....	245

**REQUEST FOR PROPOSALS**  
**Table of Contents**

SPI-Section 904-Performance Graded Asphalt Binders and Hot Mix Asphalt.....	247
SPI-Section 905-Pipe.....	257
SPI-Section 908-Reinforcement Steel.....	265
SPI-Section 915-Production Plants.....	266
SPI-Section 916-Soil and Soil-Aggregate Borrow.....	273
SPI-Section 917-Miscellaneous Protective Coatings.....	274
SPI-Section 920-Landscaping.....	279

**PROPOSAL FORM PACKET**

Proposal Form Packet.....	283
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**CONTRACT PROVISIONS**  
**(NCHRP) REPORT 350 IMPLEMENTATION SCHEDULE**

CONTRACT NO. CH3505174  
1 of 2

**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.

**REQUEST FOR PROPOSALS**  
**Table of Contents**

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





### **OCCUPYING WETLANDS/WATERWAYS FOR DESIGN-BUILD**

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

- (a) Prior to performing any work on the project, the areas of wetland will be identified and marked by orange safety fence or as directed by the Engineer. All personnel of the Contractor or sub-contractors shall be alerted to these designated areas.
- (b) The Contractor or sub-contractors shall not impact any wetland or waterway, whether it be permanently or temporarily unless otherwise stipulated in the permit and approved as an authorized action by the appropriate regulatory agency. No fill shall be placed in these areas without an appropriate permit. No storage of equipment or materials will be allowed in wetlands.
- (c) The Contractor or sub-contractor shall not impact a wetland or waterway that is not covered by an existing wetland permit.
- (d) If the Contractor impacts any wetland or waterway for which they do not have a wetland permit, they shall be responsible for contacting the State Highway Administration's Environmental Programs Division prior to restoring the wetland areas and mitigating the wetland impacts to the full satisfaction of the environment regulatory agencies, which could include monetary compensation.
- (e) The cost of restoration and mitigation of the impacted areas shall be at no additional cost to the Administration.
- (f) The Design-Builder will prepare permit modifications at the conclusion of design and at the conclusion of construction. The modification will be based on surveyed as-built plans and will include standard 8.5"x 11.0" plates and a revised Joint State/Federal Nontidal Wetlands and Waterways Permit application.

The importance of not abusing waterways and wetland areas cannot be overemphasized. It is possible that abuse of waterways and wetland areas could jeopardize the operation of the total Contract and could be cause for a shut-down. If a shut-down occurs because of the Contractor's failure to secure the required permits (i.e. the Contractor's method of work includes impacts not approved by previously acquired permits), the Contractor's negligence or operations, all costs and damages to the Contractor and to the State will be at the Contractor's expense. Non-compliance with these requirements will not be considered for an extension of Contract time.

### **BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS**



1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIALS FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES:

ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.) AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.



8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:
  - A. USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE DURING ANY YEAR.
  - B. USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.
  - C. USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.
10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.



**CONTRACT PROVISIONS**

**MBE FOR STRAIGHT STATE DESIGN-BUILD CONTRACTS**

CONTRACT NO. CH3505174

1 of 8

**AFFIRMATIVE ACTION REQUIREMENTS  
UTILIZATION OF MINORITY BUSINESS ENTERPRISES  
FOR STRAIGHT STATE CONTRACTS  
(Where the Contractor's bid exceeds \$50,000)**

**A. General**

For the purpose of these requirements, the following terms as defined below shall apply:

**Administration Representative** – A Minority Business Enterprise (MBE) Officer of an Administration who enforces the laws and regulations pertaining to minority business enterprise and Contract compliance.

**Affirmative Actions** – Specific steps taken to eliminate discrimination and its effects, to ensure nondiscriminatory results and practices in the future, and to involve minority businesses fully in contracts and programs.

**Business Enterprises** – A legal entity which is organized in any form other than as a joint venture (e.g., sole proprietorship, partnership, corporation, etc.) to engage in lawful commercial transactions.

**Certified Business** – A business which by order of the Chair/MBE Advisory Council or his/her designee, has been certified as a bona fide MBE.

**Director, Office of Equal Opportunity** – The individual designated for the Administration's overall MBE compliance.

**Joint Venture** – An association of a MBE firm and one or more other firms to carry out a single, for profit business enterprise, for which the parties combine their property, capital, efforts, skills and knowledge, and in which the MBE is responsible for a distinct, clearly defined portion of the work of the Contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

**Minority Business Enterprise (MBE)** – Any legal entity, other than a joint venture, organized to engage in commercial transactions which is at least 51 percent owned and controlled by one or more minority persons, or a nonprofit entity organized to promote interests of the physically or mentally disabled.

**MBE Directory** – A compilation of businesses certified by MDOT as minority or socially and economically disadvantaged businesses. The directory will be published annually with quarterly supplements. It will also be provided in automated format and on the Internet to be updated as changes are made.

**MBE Program** – A program developed by MDOT to implement the requirements of Title 14, Subtitle 3 of the State Finance Procurement Article, Annotated Code of Maryland and Title 10, Subtitle 3 of the State Finance Procurement Article of the Annotated Code of Maryland for Leases of State-Owned Property.

**MBE Participation Packet** – The documents submitted by the bidder or proposer pursuant to the appropriate special bid provisions. The MBE Participation Packet shall consist of the



## CONTRACT PROVISIONS

CONTRACT NO. CH3505174

### MBE FOR STRAIGHT STATE DESIGN-BUILD CONTRACTS

2 of 8

MBE Utilization Affidavit and the MBE Participation Schedule, both of which must be submitted with your bid or initial price proposal. The MBE Participation Packet also includes the following documents which are submitted after bids or proposals are opened: MDOT Schedule of Participation of Minority Business Enterprise (Form OOC44), the MDOT Minority Contractor Project Disclosure and Participation Statement (Form OOC45), the MDOT Joint Venture Disclosure Affidavit (Form D-EEO-006) and the Minority Contractor Unavailability Certificate (Form OOC46).

**Minority or Minority Person for Straight State Contracts** - Member of one of the following socially and economically disadvantaged groups:

1. African American – An individual having origins in any of the Black racial groups of Africa;
2. American Indian/Native American – An individual having origins in any of the original peoples of North America and who is a documented member of a North American tribe, band, or otherwise organized group of native people who are indigenous to the continental United States or who otherwise have a special relationship with the United States or a state through treaty, agreement, or some other form of recognition. This includes an individual who claims to be an American Indian/Native American and who is regarded as such by the American Indian/Native American community of which he/she claims to be a part, but does not include an individual of Eskimo or Aleutian origin;
3. Asian – An individual having origins in the far East, Southeast Asia, or the Indian Subcontinent and who is regarded as such by the community of which the person claims to be a part;
4. Hispanic – An individual of Mexican, Puerto Rican, Cuban, Central or South American, Portuguese or other Spanish culture or origin regardless of race, and who is regarded as such by the community of which the person claims to be a part;
5. Women – This category shall include all women, regardless of race or ethnicity, although a woman who is also a member of an ethnic or racial minority group may elect that category in lieu of the gender category; or
6. Physically or Mentally Disabled – An individual who has an impairment that substantially limits one or more major life activity, who is regarded generally by the community as having such a disability, and whose disability has substantially limited his or her ability to engage in competitive business.

## B. MBE and Good Faith Effort Requirements

1. This contract includes an MBE participation goal for subcontracting, and/or procurement of materials, and/or services. Bidders/Offerors must make a good faith effort to meet the MBE participation goal **before bids or proposals are due**, including outreach efforts. A bid or initial proposal must include both a completed and executed MBE utilization affidavit and MBE participation schedule. The failure of a bidder to complete and submit the MBE utilization affidavit and the MBE participation schedule shall result in a determination that the bid is not responsive. The failure of an offeror to complete and submit the MBE utilization affidavit and the MBE participation schedule shall result in a determination that the proposal is not susceptible of being selected for award.



**CONTRACT PROVISIONS**

CONTRACT NO. CH3505174

**MBE FOR STRAIGHT STATE DESIGN-BUILD CONTRACTS**

3 of 8

2. In making a good faith effort to achieve the MBE goal, prior to completing the MBE utilization affidavit and participation schedule and prior to submitting a bid or initial proposal bidders (or offerors) including those bidders or offerors that are certified MBEs must:
  - a. Identify specific work categories within the scope of the procurement appropriate for subcontracting and/or procurement of materials and/or services;
  - b. **Solicit certified MBEs in writing at least 10 days before bids or initial proposals are due**, describing the identified work categories and providing instructions on how to bid on the subcontracts and/or procurement of materials and/or services;
  - c. Attempt to make personal contact with the certified MBEs solicited and to document these attempts;
  - d. Assist certified MBEs to fulfill, or to seek waiver of, bonding requirements; and
  - e. Attend prebid or other meetings the procurement agency schedules to publicize contracting opportunities to certified MBEs.
3. The bidder shall seek commitments from minority business enterprises by subcontracting and/or procurement of materials and/or services, the combined value of which equals or exceeds the established Contract goal of 15 percent of the total value of the prime Contract. The Administration has further established that, within this Contract goal, there shall be a sub-goal of a minimum of XX percent participation by firms classified as African American-owned firms and a sub-goal of XX participation by firms classified as Women-owned firms. A bidder may count toward its MBE goals expenditures for materials and supplies obtained from MBE regular dealers and/or manufactures provided that the MBE assume the actual and contractual responsibility for the provision of the materials and supplies. The bidder may count its entire expenditure to a MBE manufacturer (i.e., a supplier that produces goods from raw materials or substantially alters them before resale). The bidder may count sixty (60) percent of its expenditures to a MBE regular dealer that is not a manufacturer, provided that the MBE supplier performs a commercially useful function in the supply process. The apparent low bidder shall submit to the Administration, within ten (10) business days after notification that it is the apparent low bidder, an acceptable Affirmative Action Plan for the utilization of Minority Business Enterprises in this Contract. The Contract will not be awarded without the bidder's Affirmative Action Plan being approved by the Administration.

Additionally, the Design-Builder shall make a good faith effort to achieve MBE participation in professional services for this contract of no less than 2 percent of the total contract value. The goal shall include efforts to achieve DBE participation in performance of professional services under the Contract (including design, supplemental geotechnical investigations, surveying and other preliminary engineering; quality control as defined in the Contract; environmental compliance activities; utility coordination; permitting; and public information). The MBE professional services participation shall be attributed to the overall contract goal noted above.

4. The Affirmative Action Plan shall include as a minimum:
  - a. The name of an employee designated as the bidder's Minority Business Liaison Officer.



**CONTRACT PROVISIONS**

CONTRACT NO. CH3505174

**MBE FOR STRAIGHT STATE DESIGN-BUILD CONTRACTS**

4 of 8

- b.** A complete Schedule for Participation (OOC44), of minority business enterprises, from among those whose names appear in the MDOT MBE Directory or who are otherwise certified by MDOT as being minority business enterprises. Except as permitted by law and approved by the Administration, the Schedule of Participation (OOC44) submitted after the opening of bids or proposals shall include all MBE firms identified on the MBE participation schedule submitted with the bid or initial proposal with a percentage of participation that meets or exceeds the percentage of participation indicated in the bid or initial proposal.
  - c.** A Minority Contractor Project Disclosure and Participation (OOC45) completed and signed by the bidder and MBE for each business listed in the Schedule for Participation.
- 5.** When a bidder intends to attain the appropriate goal for minority business enterprise participation by use of a joint venture, the bidder shall submit a Joint Venture Disclosure Affidavit (MDOT D-EEO-006-A) showing the extent of the MBE participation. If a bidder intends to use a joint venture as a subcontractor to meet its goal, the affidavit shall be submitted through the bidder by the proposed subcontractor and signed by all parties.
- 6.** When the proposed MBE participation does not meet the MBE Contract goals, information sufficient to demonstrate that the bidder has made good faith efforts to meet these goals shall be required.

**7. Request for Exception to the MBE Goal**

If the bidder is unable to secure from MBEs by subcontracting and/or by procurement of materials and/or services, commitments which at least equal the appropriate percent of the value of the prime Contract at time of bid, the bidder shall request, in writing, waiver of the unmet portion of the goal. This request must be initiated by checking the appropriate box on the MBE utilization affidavit submitted with the bid or initial proposal.

The waiver may be granted by the Administrator. To obtain approval of a waiver, the bidder shall submit the following:

- a.** A detailed statement of efforts made prior to bid to contact and negotiate with MBEs including the dates, names, addresses, and telephone numbers of MBEs who were contacted; a description of the information provided to the MBEs regarding the work to be performed, anticipated schedule for portions of the work to be performed; and a detailed statement of the reasons why additional prospective agreements with MBEs were not reached;
- b.** A detailed statement of the efforts made to select portions of the work proposed to be performed by MBEs in order to increase the likelihood of achieving the stated goals;
- c.** For each MBE that the Contractor considers not qualified, but from which a bid has been received, a detailed statement of the reasons for the bidder's conclusion; and
- d.** For each MBE contacted but unavailable, a Minority Contractor Unavailability Certificate, (OOC46), signed by the minority business enterprise, or a statement from the bidder stating that the MBE refused to sign the Certificate.

**8. Guidance concerning good faith efforts**

9/9/08



**CONTRACT PROVISIONS**

CONTRACT NO. CH3505174

**MBE FOR STRAIGHT STATE DESIGN-BUILD CONTRACTS**

5 of 8

The following is a list of the types of actions and factors that will be used to determine the bidder's or offeror's good faith efforts to obtain MBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

- (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of certified MBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the MBEs to respond to the solicitation. The bidder must determine with certainty if the MBEs are interested by taking appropriate steps to follow up initial solicitations.
- (2) Selecting portions of the work to be performed by MBEs in order to increase the likelihood that the MBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MBE participation, even when the bidder or offeror might otherwise prefer to perform these work items with its own forces.
- (3) Providing interested MBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (4) (a) Negotiating in good faith with interested MBEs. It is the bidder's or offeror's responsibility to make a portion of the work available to MBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available MBE subcontractors and suppliers, so as to facilitate MBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of MBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for MBEs to perform the work.  
  
(b) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including MBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using MBEs is not in itself sufficient reason for a bidder's failure to meet the contract MBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders and offerors are not, however, required to accept higher quotes from MBEs if the price difference is excessive or unreasonable.
- (5) Not rejecting MBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its





**CONTRACT PROVISIONS**

CONTRACT NO. CH3505174

**MBE FOR STRAIGHT STATE DESIGN-BUILD CONTRACTS**

6 of 8

industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor's efforts to meet the project goal.

- (6) Making efforts to assist interested MBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.
- (7) Making efforts to assist interested MBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of MBEs.
- (9) In determining whether a bidder or offeror has made good faith efforts, the Administration may take into account the performance of other bidders or offerors in meeting the contract goal. For example, when the apparent successful bidder or offeror fails to meet the contract goal, but others meet it, the Administration may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder or offeror could have met the goal. If the apparent successful bidder or offeror fails to meet the goal, but meets or exceeds the average MBE participation obtained by other bidders or offerors, the Administration may view this, in conjunction with other factors, as evidence of the apparent successful bidder or offeror having made good faith efforts.

**9. Bidder Use of MBE Special Services**

The bidder shall consider, whenever possible, utilizing the services of minority-owned banks. Most minority banks are full-service corporations that can provide an array of financial services such as Treasury and Tax Loan fund accounts, time and demand deposit accounts, payroll services and if needed, organization investment counseling. It is the policy of MDOT to encourage its Contractors to utilize, on a continuing basis, MBE banks.

**10. Bidder Records**

The bidder shall maintain records showing actions which have been taken to comply with procedures set forth herein.

**11. Bidders Cooperation**

The bidder shall cooperate with the Administration representative in any review of the Contractor's procedures and practices, with respect to the MBEs, which the Administration's representative may, from time to time, conduct.



**CONTRACT PROVISIONS**

**MBE FOR STRAIGHT STATE DESIGN-BUILD CONTRACTS**

CONTRACT NO. CH3505174

7 of 8

**12. Bidder MBE Modifications**

During the life of the Contract, all plans to modify the approved MBE participation program will require the approval of the Administrator or his authorized representative. This will include any changes to items of work to be sublet or materials and services to be obtained which differs from those in the original MBE participation program. All requests for revisions shall be directed to the appropriate District Engineer for disposition.

The low bidder's failure to participate in any of the above proceedings or failure to furnish information after written request may result in rejecting the bid and non-award of the Contract.

**C. RECORDS AND REPORTS**

1. The Contractor shall keep such records as are necessary to determine compliance with its Minority Business Enterprise utilization obligations. The records kept by the Contractor shall be designed to include:
  - a. The name of minority and non-minority subcontractors and suppliers, the type of work materials or services being performed on or incorporated in this project, the monetary value of such work materials or services, the terms of performance and/or delivery, copies of all cancelled checks paid to subcontractors and suppliers and a record of all payments made to subcontractors and suppliers.
  - b. Documentation of all correspondence, contacts, telephone calls, etc., to obtain the services of minority business enterprises on this project.
  - c. The progress and efforts made in seeking out minority contractor organizations and individual minority contractors for work on this project.
2. The Contractor shall submit reports, on a quarterly basis, of those contracts and other business transactions executed with minority business enterprises, with respect to the records referred to in C. 1., above, in such form, manner and content as prescribed by the Administration. The quarterly reports shall be due on the 15<sup>th</sup> calendar day of January, April, July, and October. If the Contractor cannot submit their report on time, the Contractor shall notify the Administration's representative and request additional time to submit the report. Failure of the Contractor to report in a timely manner may result in a finding of noncompliance. Additional report may be required by the Administration upon request.
3. To insure compliance with the certified MBE Contract participation goal, the Contractor shall:
  - a. Submit monthly reports listing all unpaid invoices over 30 days, from certified MBE subcontractors, and the reason payment has not been made.
  - b. Include in its agreement, with certified MBE subcontractors, a requirement that MBE subcontractors are to submit monthly, to the Administration, a report identifying the prime Contractor and listing the following:
    - (1) Payment received from the prime Contractor, in the proceeding 30 days;



**CONTRACT PROVISIONS**

CONTRACT NO. CH3505174

**MBE FOR STRAIGHT STATE DESIGN-BUILD CONTRACTS**

8 of 8

- (2) Invoices for which the subcontractor has not been paid.
4. All such records and reports shall be retained for a period of three years following acceptance of final payment and shall be available for inspection by the Maryland Department of Transportation and this Administration.

**D. ADMINISTRATIVE PROCEDURES FOR ENFORCEMENT**

1. Whenever the Administration believes the prime Contractor or any subcontractor may not be operating in compliance with the terms of these provisions, the Administration's representative will conduct an investigation. If the Administration representative finds the prime Contractor or any subcontractor is not in compliance with these provisions, the representative will make a report of noncompliance and notify such Contractor in writing of the steps that will, in the judgment of the Administration, bring the Contractor into compliance. If the Contractor fails or refuses to comply fully with such steps, the Administration's representative will make a final report of the noncompliance to the Administrator, who may direct the imposition of one or more of the sanctions listed below:
- a. Suspension of work on the project, pending correction;
  - b. Withholding payment or a percentage thereof, pending correction;
  - c. Referral of MBEs to the MDOT office of MBE, for review for decertification, for review/referral to the Attorney General's Office for review/initiation of debarment or for review for criminal prosecution through the MDOT Office of General Counsel;
  - d. Initiation of suspension in accordance with COMAR regulations;
  - e. Referral to the Attorney General's Office for review for debarment or for criminal prosecution through the MDOT Office of General Counsel;
  - f. Any other action as appropriate, within the discretion of the Administrator.
2. If the documents used to determine the status of a MBE contains false, or misleading or misrepresenting information, the matter will be referred to the MDOT Office of the General Counsel for appropriate action. In addition, when directed by the Administrator, the Contractor shall terminate, without liability to the Administration, its contract with a firm, which for any reason, is either no longer certified or no longer eligible to do business in the State. The Contractor shall promptly submit plans for maintaining the required MBE participation on the project or appropriate request for waiver of all or part of the Contract goal with appropriate documentation to support Good Faith Efforts (as established by COMAR including the MDOT MBE/MBE Program Manual). The program and all revisions require the Administrator's approval.



### **MBE/DBE COMPLIANCE FIELD MEETING**

A MBE/DBE compliance Field Meeting will be conducted to review the responsibilities of the Administration and the Contractor's personnel relative to MBE/DBE Compliance and documentation. The meeting will be held within two weeks after starting work on the project.

The Construction Project Engineer, who will notify the following of the date, time and location, will arrange the meeting. At least one week advanced notice will be required.

**(a) Administrative Representatives.**

- (1) Director, Office of Equal Opportunity or Designee
- (2) District Equal Opportunity Officer
- (3) Regional Constructional Engineer
- (4) Construction Project Engineer
- (5) Construction Inspection Division Inspector

**(b) Contract Representatives.**

- (1) Superintendent - Prime Contractor
- (2) Equal Opportunity Officer - Prime Contractor
- (3) Owner/Superintendent/Foreman MBE/ DBE - Subcontractor

The Construction Project Engineer and Equal Opportunity Representative will jointly conduct the meeting. The Contractor shall notify the appropriate subcontractors and ensure their attendance.



**CONTRACT PROVISIONS**

**TRAFFIC CONTROL PLAN CERTIFICATION**

CONTRACT NO. CH3505174

FAP NO. N/A

1 of 1

**TRAFFIC CONTROL PLAN CERTIFICATION FOR DESIGN-BUILD**

PRIOR TO THE COMMENCEMENT OF WORK ON THIS PROJECT, THE SUCCESSFUL BIDDER WILL BE REQUIRED TO COMPLETE A TRAFFIC CONTROL PLAN CERTIFICATION, CONTAINING THE INFORMATION SHOWN BELOW. THE CERTIFICATION FORM WILL BE PROVIDED TO THE SUCCESSFUL BIDDER UPON AWARD OF THE CONTRACT.

The Administration's Traffic Control Plan (TCP) has been reviewed and the following course of action shall be followed:

**Option 1** See Note Below

The TCP is accepted and shall be used on this project.

**Option 2** See Note Below

The TCP is accepted; however, revisions and/or additions shall be submitted for approval in conformance with the Administration's Specifications 104.01.

**Option 3**

The TCP is not accepted and revision shall be submitted for approval in accordance with the Administration's Specifications 104.01.

It is understood that the effective implementation of the approved TCP is the responsibility of the Contractor. Minor modifications may be made by the Traffic Manager if field conditions warrant and prior concurrence is obtained from the Engineer. Significant changes to the TCP will be submitted to the Engineer in writing, for approval, in conformance with the Administration's Specifications 104.01.

---

(DATE)

---

(SIGNATURE)

---

(PRINT SIGNATURE)

---

(TITLE)

Note: Option 1 and 2 shall not be used on this project.

This is a Design-build project and the Design-Build Team must prepare a TCP based on the requirements in the Administrations Specifications 104.01.

**CONTRACT PROVISIONS**  
**CHARLES COUNTY WAGE RATES**

CONTRACT NO. CH3505174  
FAP NO. N/A  
1 of 3

WAIS Document Retrieval

GENERAL DECISION: MD20080025 02/08/2008 MD25

Date: February 8, 2008

General Decision Number: MD20080025 02/08/2008

Superseded General Decision Number: MD20070025

State: Maryland

Construction Types: Highway

Counties: Calvert, Charles and Queen Anne's Counties in Maryland.

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

Modification Number	Publication Date
0	02/08/2008

SUMD1999-004 04/07/1999

	Rates	Fringes
Carpenter.....	\$ 19.79	1.02
Cement Mason/Finisher.....	\$ 11.40	.71
Guardrail Installers.....	\$ 11.05	1.65
Ironworker, Reinforcing.....	\$ 16.38	7.30
Laborers:		
Asphalt Rakers.....	\$ 8.85	2.41
Concrete Laborers.....	\$ 11.27	.31
Flaggers.....	\$ 7.00	.65
Unskilled.....	\$ 8.92	1.39
Painter, Line Striper.....	\$ 12.21	1.67
Power equipment operators:		
Asphalt Spreaders.....	\$ 10.15	1.92
Backhoes.....	\$ 10.03	1.72
Gradalls.....	\$ 14.33	4.06
Graders.....	\$ 11.56	2.92
Loaders.....	\$ 12.69	1.36
Milling Machine.....	\$ 9.07	.52
Pavers.....	\$ 9.48	2.36
Rollers.....	\$ 10.93	2.30
Screedmen.....	\$ 10.18	2.42
Truck Driver, Dump.....	\$ 11.42	1.12

8/8/08

**CONTRACT PROVISIONS**  
**CHARLES COUNTY WAGE RATES**

CONTRACT NO. CH3505174  
FAP NO. N/A  
2 of 3

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

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

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

**CONTRACT PROVISIONS**  
**CHARLES COUNTY WAGE RATES**

CONTRACT NO. CH3505174  
FAP NO. N/A  
3 of 3

Washington, DC 20210

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

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

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

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

=====

END OF GENERAL DECISION





**NOTICE OF ACTIONS REQUIRED FOR AFFIRMATIVE ACTION TO  
ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. The Offeror's or Bidders attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as noted in Appendix A and B:

These goals are applicable to all the Contractors' construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this notification. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is noted on appendix B.

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION  
CONTRACT SPECIFICATIONS (Executive Order 11246)**

1. As used in these specifications:
  - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
  - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;



**CONTRACT PROVISIONS**

**NOTICE OF ACTIONS FOR AFFIRMATIVE ACTION**

CONTRACT NO. CH3505174

2 of 8

- c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
  - d. "Minority" includes:
    - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
    - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin regardless of race);
    - (iii) Asian and Pacific Islander (all persons having origins in any of the original people of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and,
    - (iv) American Indians or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
- 2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
- 3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
- 4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7.a through 7.p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goal in each craft during the period specified.
- 5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.



**CONTRACT PROVISIONS**

**NOTICE OF ACTIONS FOR AFFIRMATIVE ACTION**

CONTRACT NO. CH3505174

3 of 8

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
  - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
  - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
  - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with reason therefore, along with whatever additional actions the Contractor may have taken.
  - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
  - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7.b above.
  - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the



**CONTRACT PROVISIONS**

**NOTICE OF ACTIONS FOR AFFIRMATIVE ACTION**

CONTRACT NO. CH3505174

4 of 8

policy with all management personnel and with all minority and female employees at least once a year and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

- g.** Review, at least annually, the company's EEO Policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h.** Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i.** Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j.** Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
- k.** Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l.** Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m.** Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to insure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n.** Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o.** Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.



**CONTRACT PROVISIONS**

**NOTICE OF ACTIONS FOR AFFIRMATIVE ACTION**

CONTRACT NO. CH3505174

5 of 8

- p.** Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
- 8.** Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7.a through 7.p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more if its obligations under 7.a through 7.p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's non-compliance.
- 9.** A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
- 10.** The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
- 11.** The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
- 12.** The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
- 13.** The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
- 14.** The Contractors shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at



**CONTRACT PROVISIONS**

**NOTICE OF ACTIONS FOR AFFIRMATIVE ACTION**

CONTRACT NO. CH3505174

6 of 8

which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

- 15.** Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents

(a.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

- 16.** The Contractor will receive at the time of Award Federal Form CC-257 for his use in reporting monthly the Affirmative Actions for minority and female which he has employed.



**APPENDIX A**

The following goals and timetables for female utilization shall be included in all Federal and federally assisted construction contracts and subcontracts in excess of \$10,000. The goals are applicable to the Contractor's aggregate on-site construction work force whether or not part of that work force is performing on a Federal or federally assisted construction contract or subcontract.

AREA COVERED: Nationwide

**GOALS AND TIMETABLES**

Timetable	Goals (percent)
From April 1, 1978 until March 31, 1979.....	3.1
From April 1, 1979 until March 31, 1980.....	5.0
From April 1, 1980 until further notice.....	6.9



### APPENDIX B

Until further notice, the following goals for minority utilization in each construction craft and trade shall be included in all Federal or federally assisted construction contracts and subcontracts in excess of \$10,000 to be performed in the respective geographical areas. The goals are applicable to each nonexempt contractor's total on-site construction work force, regardless of whether or not part of that work force is performing work on a Federal, federally assisted or nonfederally related project, contract or subcontract.

Construction contractors which are participating in an approved Hometown Plan (see 41 CFR 60-4.5) are required to comply with the goals of the Hometown Plan with regard to construction work they perform in the area covered by the Hometown Plan. With regard to all their other covered construction work such contractors are required to comply with the applicable SMSA or EA goal contained in this appendix B-80.

State	Goal (percent)
Maryland:	
019 Baltimore, MD:	
SMSA Counties:	
0720 Baltimore, MD.....	23.0
MD Anne Arundel; MD Baltimore;	
MD Carroll; MD Harford;	
MD Howard; MD Baltimore City	
Non-SMSA Counties.....	23.6
MD Caroline; MD Dorchester;	
MD Kent; MD Queen Annes;	
MD Somerset; MD Talbot;	
MD Wicomico; MD Worcester	
Washington, DC:	
020 Washington, DC:	
SMSA Counties:	
8840 Washington, DC.....	28.0
MD Charles; MD Montgomery;	
MD Prince Georges	
Non-SMSA Counties.....	25.2
MD Calvert; MD Frederick	
MD St. Marys; MD Washington	
Pennsylvania	
Non-SMSA Counties.....	4.8
MD Allegany; MD Garrett	





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

**HIGH VISIBILITY SAFETY APPAREL POLICY**

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

**STATEMENT OF POLICY.**

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

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

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



**CONTRACT PROVISIONS**  
HIGH VISIBILITY SAFETY APPAREL POLICY

CONTRACT NO. CH3505174  
2 of 2

**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.

## **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.

**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 January 2001 revisions thereof, or additions thereto, and the Special Provisions included in this Request for Proposals.

In the following sections of the "Standard Specifications for Construction and Materials." Dated January 2001, the word "Engineer" shall be taken to mean "Design-Build Engineer."

Category 100 Preliminary

Section 101.03.02	¶ 1, Line 1
Section 101.03.04	¶ 1, Line 2
Section 104.05.04	¶ 1, Line 6
Section 104.08.03	¶ 5, Line 2
Section 104.11.03	¶ 2, Line 5
Section 107.03.01	¶ 1, Line 1
Section 107.03.01	¶ 8, Line 1
Section 107.03.01	¶ 9, Line 2
Section 107.03.03	¶ 1, Line 2
Section 107.03.05	¶ 1, Line 4, 13
Section 107.03.06	¶ 7, Line 2

Category 200 Grading

Section 201.03.04	¶ 5, Line 2
Section 201.03.06	¶ 1, Line 4
Section 201.03.10	¶ 1, Line 5
Section 204.02.03	¶ 1, Line 1
Section 205.03	¶ 2, Line 2
Section 206.04.02	¶ 5, Line 2

Category 300 Drainage

Section 301.03	¶ 1, Line 2
Section 303.03.06	¶ 1, Line 2
Section 306.03.03	¶ 1, Line 6
Section 306.03.04	¶ 4, Line 2
Section 306.04.03	¶ 1, Line 1
Section 309.03.07	¶ 1, Line 2
Section 310.03.02	¶ 1, Line 7, 8
Section 314.02.03	¶ 1, Line 6

**CONTRACT PROVISIONS  
SPECIFICATIONS**

CONTRACT NO. CH3505174

2 of 3

Category 400 Structures

Section 402.03.04	¶ 2, Line 2
Section 410.03.09	¶ 1, Line 6
Section 411.03	¶ 1, Line 1, 7
Section 411.03	¶ 5, Line 1
Section 430.03.14	¶ 1, Line 6

Category 500 Paving

Section 507.03.05	¶ 5, Line 2
Section 507.03.08	¶ 1, Line 2
Section 522.03	¶ 1, Line 2

Category 600 Shoulders

Section 602.01	¶ 1, Line 4
Section 602.03.01	¶ 2, Line 7
Section 602.03.01	¶ 7, Line 3
Section 602.03.01	¶ 8, Line 3
Section 602.03.02	¶ 2, Line 3
Section 604.01	¶ 1, Line 3
Section 604.03.01	¶ 2, Line 4
Section 604.03.03	¶ 1, Line 4
Section 605.01	¶ 1, Line 3
Section 605.03.07	¶ 1, Line 10
Section 606.01	¶ 1, Line 3
Section 606.03.01	¶ 1, Line 7
Section 606.03.01	¶ 5, Line 3
Section 607.01	¶ 1, Line 3
Section 607.03.01	¶ 3, Line 3
Section 608.01	¶ 1, Line 3

Category 700 Landscaping

Section 701.01	¶ 1, Line 4
Section 701.03.01	¶ 2, Line 3, 6
Section 704.01	¶ 1, Line 5
Section 705.01	¶ 1, Line 4
Section 706.01	¶ 1, Line 4
Section 707.01	¶ 1, Line 3
Section 708.01	¶ 1, Line 3
Section 709.01	¶ 1, Line 3
Section 709.03.02	¶ 1, Line 3
Section 710.01	¶ 1, Line 4

5/11/04

**CONTRACT PROVISIONS**

CONTRACT NO. CH3505174

**SPECIFICATIONS**

3 of 3

Section 710.03.01	¶ 2, Line 4
Section 711.01	¶ 1, Line 4
Section 711.03.02	¶ 1, Line 3
Section 712.01	¶ 1, Line 4
Section 712.03.01	¶ 1, Line 2
Section 713.01	¶ 1, Line 5
Section 713.03.02	¶ 2, Line 2
Section 713.03.02	¶ 3, Line 1, 2, 8
Section 713.03.03	¶ 2, Line 1
Section 713.03.04	¶ 1, Line 3
Section 714.01	¶ 1, Line 2

Category 800 – Traffic

Section 801.01	¶ 1, Line 4
Section 804.03.03	¶ 1, Line 7
Section 804.03.03	¶ 2, Line 2
Section 810.03.04	¶ 1, Line 3

Category 900 – Materials

Section 902.11	¶ 6, Line 2
Section 910.02.02	¶ 2, Line 5
Section 910.02.03	¶ 1, Line 4
Section 915.01.06	¶ 1, Line 4, 7
Section 921.10	¶ 1, Line 3

**GENERAL PROVISIONS**

**GP - SECTION 2**  
**BIDDING REQUIREMENTS AND CONDITION FOR DESIGN BUILD –**  
**COMPETITIVE SEALED PROPOSALS**

**GP-2.19 BID EVALUATION AND AWARD.**

(a) General.

**DELETE:** In its entirety.

**INSERT:** The following:

**General.** The Contract is to be awarded to the responsible and responsive bidder whose bid meets the requirements and evaluation criteria set forth in the Request for Proposals, and is the most favorable evaluated bid price.

(b) Determination of the Lowest Bidder.

In the heading, substitute Most Favorable Evaluated Bid Price for Lowest Bidder.

In the first paragraph, substitute most favorable evaluated bid price for lowest cost.

(c) Award.

In the first sentence, substitute most favorable evaluated bid price for lowest bidder.

In the second sentence, substitute most favorable evaluated bid price for lowest responsive.

**TERMS AND CONDITIONS**

**TC SECTION 2**  
**BIDDING REQUIREMENTS AND CONDITIONS FOR DESIGN, BUILD, OPERATE**  
**AND MAINTAIN**

**TC 2.03      VALUE ENGINEERING CHANGE PROPOSALS**

**DELETE**: This entire section.

**ADD**: Value Engineering proposals will not be entertained on this project.

**TC 2.06      PARTNERING**

**DELETE**: This entire section.

**INSERT**: The following:

Partnering on this project will be mandatory. The partnership will be structured to draw on the strengths of each organization through open communication, teamwork and cooperative action to identify and achieve mutual goals. The objective is to create an atmosphere of trust and honest dialogue among all stakeholders. This partnership will not change the legal relationship of the parties to the Contract nor relieve any party from any of the terms of the Contract.

The Office of Highway Development, the Project Design Engineer and the Design-Builder's management representative will organize a partnering project team. Persons recommended being on the team and guidelines for partnering are included in the Partnering Field Guide at [www.mdqi.org](http://www.mdqi.org).

The kick-off workshop meeting will be held soon after execution of the Contract. All stakeholders will attend the kick-off workshop to develop and commit to the Partnering Charter and Issue Resolution process. Follow-up meetings will be held monthly by the Design-Builder and the Administration, with other stakeholders attending as needed.

Measuring the partnering on the project is a key element to its success. All stakeholders will participate in the process. The Partnering Project Rating form will be completed monthly and then entered into the Administration's Partnering Data Base. Summaries of the ratings will then be shared with the team. The Administration's and Design-Builder's management team will review the partnering ratings and intervene if necessary on a monthly basis.

All cost of partnering meetings shall be shared equally between the Design-Builder and the Administration.



**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
2 of 24

**TC 2.07 REQUEST FOR PROPOSALS (RFP)**

The Request for Proposal (RFP) for this Project is structured to provide the best overall value for the Administration and the citizens of Maryland. The concept of "Competitive Sealed Proposals" procurement is that there are certain factors in addition to price that provide tangible benefits to the Administration and the public. These factors will be specified in the Technical Proposal to be submitted by bidders in response to this RFP.

Selection by the "Competitive Sealed Proposals" approach is a combination of the submitted Price Proposal and the submitted Technical Proposal score as determined by the Administration's Advisory Board. The submitted Price Proposal will NOT be considered until the scoring for all Technical Proposals has been completed. Proposal Price must be submitted using the Proposal Form included in this RFP.

Proposal Price shall be submitted on a lump sum basis, and shall include all engineering, design, construction, labor, equipment and materials, and all incidentals necessary to complete the design and construction of this project.

**2.07.01 Design-Build Concept**

The Administration is soliciting Technical Proposals and Price Bids for the design, construction, operation and maintenance of one hundred (100) Administration-owned stormwater management facilities within Charles County. The basis of payment for this work will be "lump sum" which price shall include all costs associated with completion of the project in accordance with the requirements of this RFP.

The use of the term "Contractor" or "Design-Builder" within the Contract Documents furnished by the Administration shall be taken to mean Design-Build (D/B) Contractor. These terms are interchangeable.

The use of the term "Designer" or "Design-Build Engineer," within the Contract Documents furnished by the Administration, shall be taken to mean the Engineer working for the Design-Build Contractor. The use of the term "Engineer," within the Contract Documents furnished by the Administration, shall be as defined in Section GP-1.03 of the General Provisions for Construction Contracts.

**2.07.01.1 Restrictions on Participation in Design-Build Contracts:**

An individual or entity that has received monetary compensation as the lead or prime design consultant under a contract with the Administration to develop the concept plan and/or have been retained to perform construction phase services on behalf of the state, or a person or entity that employs such an individual or entity, may not submit a technical proposal or a price proposal for this procurement and is not a responsible bidder under COMAR 21.06.01.01. The technical proposal or price proposal from such an individual or entity will be rejected pursuant to COMAR 21.06.01.01 and COMAR 21.06.02.03.

The following is a list of consultants and/or subconsultants that have received monetary compensation under a contract with the Administration as the prime consultant to develop the

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
3 of 24

concept plan or has been retained by the Administration to perform construction phase services on the behalf of the state for this procurement. SHA makes no representations regarding the completeness of the list:

KCI Technologies, Inc.

In addition, the State Ethics Commission administers the provisions of the State Ethics Law, including § 15-508 of the State Government Article that contains various restrictions on participating in State procurements. Any questions regarding eligibility must be appealed to the Commission.

No official or employee of the State of Maryland, as defined under State Government Article, §15-202, Annotated Code of Maryland, whose duties as such official or employee include matters relating to or affecting the subject matter of this contract, shall during the pendency and term of this contract and while serving as an official or employee of the State become or be an employee of the Consultant or an entity that is a subcontractor on this contract.

No official or employee of the Maryland Department of Transportation (MDOT), during his tenure or for one year thereafter, shall have any interest, direct or indirect, in this Contract or the proceeds thereof, regardless of whether they participated in matters relating to this contract while in the employ of the MDOT.

**2.07.02 Project Description**

The project consists of performing the design, construction, operation and maintenance of one hundred (100) Administration-owned best management practices (BMPs) located in Charles County, Maryland. The project includes addressing existing deficiencies within ninety (90) stormwater management best management practices (BMPs), design and construction of retrofits for ten (10) additional BMPs that are currently failing, the operation and maintenance of all one hundred (100) BMPs for a three (3) year period, and an inventory and reinspection of all one hundred (100) facilities as well as database updates at the conclusion of the contract. All facilities must be "functioning as designed" by the end of the contract term, which means obtaining an inspection rating of "A" or "B" (refer to the *Maryland State Highway Administration Storm Water NPDES Program Standard Procedures Manual, Chapter 3* provided with this Request for Proposals for details on the inspection ratings).

Current inspection information, as-built information (where available), and Conceptual Design Report for retrofits are provided with this Request for Proposals. These documents must be evaluated, work orders prepared for maintenance activities, and design of retrofits prepared by the Design-Builder to ensure all project requirements are met, including addressing all stormwater management criteria to the maximum extent possible. The completion of the project documents shall be performed by the Design-Builder and approved by the Administration, subject to language included elsewhere in this Request for Proposal.

The current status of aspects of the project is as outlined below.

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
4 of 24

2.07.02.1 Inspection Results

All one hundred (100) BMPs were inspected in late 2007 or early 2008. Each component of the facility was given a numerical rating per the requirements outlined in the *Maryland State Highway Administration Storm Water NPDES Program Standard Procedures Manual*. The ratings identify the condition of each of the components, deficiencies and “action items” that must be addressed. An overall rating was based on individual components’ ratings. A database containing the inspection results is included with this document. The Design-Builder must verify conditions within the facilities and verify problems that must be addressed in order to ensure all facilities are “functioning as designed”.

2.07.02.2 As-Built Plans

As-built plans are provided for eight-four (84) of the one hundred (100) stormwater facilities. As-built drawings are not available for the remaining facilities. These drawings are provided as TIFF images with this document. The BMP type and photographs are provided for all facilities.

2.07.02.3 Concept Plans

Conceptual drawings and preliminary computations for possible retrofit solutions for the ten (10) failing facilities are included with this document. The retrofit of these facilities must address all stormwater management criteria identified in the *2000 Maryland Stormwater Design Manual* to the maximum extent possible. These concept plans are being provided for informational purpose only. The Design-Builder must assess each site and prepare design plans for Administration and Maryland Department of the Environment approval.

2.07.02.4 Permits

The following permits and/or approvals are anticipated to be required for this project:

- Erosion and Sediment Control Approval (from Maryland Department of the Environment (MDE))
- Stormwater Management Permit (from MDE)
- Administration approval of work orders for maintenance activities
- National Pollutant Discharge Elimination System (NPDES) Notices of Intent (NOI)
- U.S. Army Corps of Engineers – Section 404 Clean Water Act Permit (if applicable)

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
5 of 24

- Maryland Department of the Environment – Nontidal Wetland and Waterways Permit (if applicable)
- All other approvals, permits and licenses, pay all charges, fees and taxes and give notices necessary or appropriate for the implementation of the project beyond those obtained by the Administration. This includes but is not limited to approvals for on or off-site staging, stock piling areas, disposal sites and borrow pits.

**Status of Joint 404 Permit (JP) and Water Quality Certification (WQC):**

The Administration has not applied for a Nontidal Wetlands and Waterways Permit through MDE. Maintenance activities will not require the submission of a Joint Permit Application. The retrofit of facilities that includes the expansion of the footprint of the facility into existing exterior wetlands will require submission of a Joint Permit Application and issuance of a Nontidal Wetlands and Waterways Permit. It will be the responsibility of the Design-Build Team to identify the existence of onsite wetlands and waterways.

**Status of Stormwater Management Review:**

Stormwater management concept designs were developed to demonstrate the extent that the stormwater management requirements for the project can be met within the existing right-of-way. No submission to MDE for a stormwater management review has been conducted. The Design-Build team is responsible for the preparation of final stormwater management design and obtaining the final approvals.

**Status of Erosion and Sediment Control Approval:**

No erosion and sediment control design has been provided by the Administration. The Design-Build Team is responsible for the preparation of final Erosion and Sediment Control Plans and obtaining final approvals.

**2.07.03 RFP Package**

The following materials are being provided to all prospective bidders:

- A. One copy of this RFP.
- B. Stormwater management inventory and inspection database.
- C. As-built drawings.
- D. Concept plans for the retrofit of failing facilities.
- E. Preliminary computations for the retrofit of failing facilities.
- F. Photographs of facilities.

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
6 of 24

- G. One copy of the *Maryland State Highway Administration Storm Water NDPES Program Standard Procedures Manual*.

The following materials are also being provided to all prospective bidders. This material is considered necessary for the Design-Build Team to submit a technical proposal and prepare a bid.

H. Design-Builder's Information Forms (.doc files)

- Design-Builder's Key Management and Staff Information (Form A-1)
- Design-Builder's Project Description (Form A-2)
- Erosion Sediment Control Past Performance Form

I. Stormwater Management and Surface Drainage Information

- BMP Checklists and As-Built Certification Formats
- SWM Report Format Guidelines
- SHA BMP Identification Form
- Water Quality Summary Sheet Format and Definitions
- Bioretention Facility Suggested Plants
- Geotextile Guidelines
- MDE Guidelines

**2.07.04 Description of Work**

2.07.04.1 Engineering/Construction Services

The required engineering and construction services to be provided by the Design-Builder will include, but not be limited to:

- Verification of maintenance needs for ninety (90) stormwater management facilities.
- Completion of work orders and attainment of Highway Hydraulics Division approval for maintenance activities.
- Stormwater management design, approval, and as-built certification for the retrofit of ten (10) facilities.
- Structural design for all stormwater management control structures and all other incidental structures specifically designed for this project.

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
7 of 24

- Erosion and sediment control (E&S) design and approvals for retrofit facilities.
- Geotechnical evaluation of all retrofit facilities.
- Ground surveying retrofit sites.
- Preparation of landscape plans.
- Preparation of eradication work orders for invasive species.
- Preparation of environmental permitting packages and attainment of agency approvals.
- General coordination with Administration (includes obtaining required approvals).
- Visual Quality review for SWM retrofits based on SHA Site Development Criteria
- Produce required deliverables.
- Clearing and grubbing.
- Execution of work orders for maintenance items identified by the inspections.
- Performance of annual maintenance tasks.
- Maintenance of traffic.
- Excavation, embankment construction, borrow, undercutting, backfill, disposal of unsuitable material and disposal of excess material.
- Landscaping and stormwater management plantings.
- Any other items required to successfully complete the project.

**TC 2.08      PROPOSAL SUBMISSION REQUIREMENTS**

**2.08.01      Responsibilities of the Bidders**

2.08.01.1      Review of RFP and Plans

Before submitting a proposal, the Prospective Bidder is responsible for examining the RFP and materials furnished to each prospective Design-Builder. The Design-Builder is responsible for all site investigation and preliminary design necessary to submit proposals and accept responsibility that their bid is sufficient to complete all design and construction.

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
8 of 24

2.08.01.2 Site Investigation

The Prospective Bidder is solely responsible for all site conditions discoverable from a reasonable site examination. This includes the presence of on-site utilities, wetlands or waterways, invasive species, facility contamination, traffic consideration, and access constraints. **No subsurface exploration will be permitted by the Prospective Bidder.**

2.08.01.3 Utility Coordination

Prior to submitting a Price Bid, the Prospective Bidder must conduct utility research and coordination with all utility companies and perform additional site research to determine:

- a. what utility relocation work is planned, what is the status and anticipated schedule impact of this work.
- b. what utilities actually exist within the project limits.
- c. what additional utility relocation work must be included in their design and impact to the schedule that will result from the Design-Builder's activities.
- d. what permitting modifications result from additional utility relocations.

The Price Bid must represent a thorough consideration of these elements.

2.08.01.4 Surveys

Site surveys will be required for retrofit sites as well as other sites requiring significant maintenance. The Design-Builder must account for these services within their project schedule and design submittals. If the Prospective Bidder feels survey information is required to prepare the Bid, it is the responsibility of the Prospective Bidder at its expense to obtain all such required information. The Administration accepts no responsibility for the lack of this information.

2.08.01.5 Duty to Notify if Errors Discovered

Bidders shall not take advantage of any error, omission, or discrepancy in the RFP or related materials, including all Project information. If a Bidder discovers such an error, omission or discrepancy, he shall immediately notify the Administration in writing; failure to do so shall constitute a waiver of any claim based upon such error, omission, or discrepancy. After such notification, the Administration will confirm or modify the RFP in writing as the Administration determines what may be necessary to fulfill the intent of the RFP.

**2.08.02 Pre-Submittal Requirements**

2.08.02.1 Communications During Proposal Preparation

The Procurement Officer's Designatee in this RFP, or a representative hereafter designated in writing by the Procurement Officer, is the Administration's single contact and source of information for this procurement.

The following rules of contact shall apply during the Contract procurement process and will be completed with the execution of the Contract. These rules are designed to promote a fair, unbiased, and legally defensible procurement process. Contact includes face-to-face, telephone, facsimile, electronic-mail (e-mail), or formal written communication.

The specific rules of contact are as follows:

1. Section 11-205 of the State Finance and Procurement Article, Annotated Code of Maryland, prohibits and penalizes collusion in the State procurement process.
2. After submission of Proposals, neither a Proposer nor any of its team members may communicate with another Proposer or members of another Proposer's team with regard to the PROJECT or the Proposals. However, a Proposer may communicate with a Subcontractor that is on both its team and another Proposer's team, provided that each Proposer has obtained a written certification from the Subcontractor that it will not act as a conduit of information between the teams.
3. Unless otherwise specifically authorized by the Procurement Officer, a Proposer may contact the Administration only through the Procurement Officer and only in writing (mail e-mail or facsimile), and not orally. The Proposer's contacts with the Administration shall be only through a single representative authorized to bind the Proposer.
4. The Procurement Officer normally will contact a Proposer in writing through the Proposer's designated representative.
5. Neither a Proposer nor its agents may contact Administration employees, including Administration heads, members of the evaluation committee(s) and any other person who will evaluate proposals, regarding the PROJECT, except through the process identified above.
6. Any contact by a Proposer determined to be improper may result in disqualification of the Proposer.
7. The Administration will not be responsible for or bound by: (1) any oral communication, or (2) any other information or contact that occurs outside the official communication process specified herein, unless confirmed in writing by the Procurement Officer.



**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
10 of 24

All requests for additional information or clarification of the RFP and any other communication concerning this Project shall be in writing and e-mailed with return confirmation of receipt. No verbal requests or personal visits will be honored.

All written contacts shall be addressed to:

Mr. Kirk G. McClelland, Director  
Office of Highway Development  
ATTN: Dana Havlik  
Maryland State Highway Administration  
707 N. Calvert Street, C-201  
Baltimore, Maryland 21202  
email address: dhavlik@sha.state.md.us

Only e-mailed inquiries (confirmed by mail by the requester) will be accepted. No requests for additional information or clarification to any other Administration office, consultant, or employee will be considered. All responses shall be in writing and will be disseminated only by posting on SHA's website at [www.marylandroads.com](http://www.marylandroads.com) under Contracts, Bids & Proposals. All responses to questions on the RFP and addenda to the RFP will be posted on this site. Responses to questions and addenda will not be mailed out.

Only requests received by 4:00 p.m. EST on December 8, 2008 will be addressed. Questions will not be accepted by phone. Questions, only from the primary or secondary contact, must include the requestor's name, address, telephone number, e-mail address, and the Proposer he/she represents.

A response to questions will be issued without attribution and posted sequentially on the SHA website. Multiple responses are anticipated. The last response will be posted not later than 7 days prior to the Proposal due date.

2.08.02.2 Addenda

Interpretations, clarifications or modifications to this RFP or the Contract will be made by Addenda. Addenda will only be distributed by posting on the SHA website [www.marylandroads.com](http://www.marylandroads.com). Only interpretations, clarifications and answers to the questions included in Addenda or such writings shall be binding on the Administration.

2.08.02.3 Substitutions

Proposers are advised that, in order for a Proposer to remain qualified to submit a Proposal after it has been placed on the Reduced Candidate List, its organization, including all Principal Participants, Specialty Subcontractors, and key management personnel identified in the SOQ, must remain intact for the duration of the procurement process. A Proposer may propose substitutions for participants after the SOQ submittal; however, such changes will require written approval by the Administration, which approval may be granted or withheld in the Administration's

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
11 of 24

sole discretion. Requests for changes must be made in writing no later than thirty (30) calendar days prior to the due date for submittal of Proposals.

2.08.02.4 Compliance with Applicable Law

In connection with this RFP and the Contract, Proposers shall comply with all applicable laws in all aspects in connection with the procurement process of this PROJECT and in the performance of the Contract.

2.08.02.5 EMaryland Marketplace Fees

Responders are advised that under Maryland's recently enacted EMaryland Marketplace Fees (see [www.eMarylandMarketplace.com](http://www.eMarylandMarketplace.com) for details), the fee for this PROJECT, for those invited to submit a Proposal, falls under the "Level 6" category.

**2.08.03 Proposal Delivery Formalities**

2.08.03.1 Organization of Proposal Submittals

Prospective Bidders shall organize their Technical Proposal to match the organization specified in this RFP.

a. Separate Packages

Proposal submissions shall consist of two separate packages: a Technical Proposal as described in Section TC 2.09 and a Price Bid as described in TC 2.11.

b. Technical Proposal

The Technical Proposal may be submitted in container(s) of the Prospective Bidder's choice provided the material is neat, orderly, and incapable of inadvertent disassembly. Loose leaf binders are allowable as long as all pages are numbered consecutively. Each container shall be clearly marked as follows:

Prospective Bidder's Name

**Technical Proposal**

Stormwater Management Design, Build, Operate and Maintain Project  
(Charles County) CH3505174

Container \_\_\_\_ of \_\_\_\_

c. Price Proposal

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
12 of 24

The Price Proposal shall be submitted on the Proposal Form supplied by the Administration and shall be delivered in a sealed envelope capable of holding 8½" x 11" documents without folding and clearly marked as follows:

Prospective Bidder's Name

**Price Proposal**

Stormwater Management Design, Build, Operate and Maintain Project  
(Charles County) CH3505174

d. Proposal Guaranty

The Proposal Guaranty shall be delivered with the Price Bid in a sealed business-sized envelope clearly marked as follows:

Prospective Bidder's Name

**Proposal Guaranty**

Stormwater Management Design, Build, Operate and Maintain Project  
(Charles County) CH3505174

e. Location and Deadline for Technical and Price Proposals Submittal

Technical Proposals and Price Proposals must be submitted no later than **December 18, 2008 prior to 12 noon** (prevailing local time). The proposal must be delivered to the following location:

Attention: Mr. Robert Gay, Director  
Office of Procurement and Contracts  
Fourth Floor, C-405  
707 N. Calvert Street  
Baltimore, Maryland 21202

2.08.03.2 Number of Copies

One original and 8 copies of the complete Technical Proposal shall be submitted as specified in this Section. A single original of the Proposal Guaranty and a single original of the Price Proposal shall be submitted as specified in this section.

2.08.03.3 Effect of Submitting Proposal

The signing of the Design-Build Proposal Submission Form and Price Proposal Form, and the delivery of a Proposal represents (a) an offer by the Prospective Bidder to perform the Work for the Price submitted within the time(s) specified and in accordance with all provisions of the Contract Documents and (b) the Prospective Bidder's agreement to all the provisions of the RFP and Contract governing

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
13 of 24

requirements and procedures applicable through execution of the Agreement. **The Technical Proposal will become part of the final contract.**

By so signing the above referenced terms and by delivering the Proposal, the Prospective Bidder makes the following affirmative representations.

- a. The bidder has reviewed all documents and undertaken all investigations that could significantly impact the cost, timeliness, quality, or performance of the Work. Specifically, the bidder has (a) carefully examined the RFP and all documents included or referenced therein, (b) become familiar with all applicable federal, state and local laws and regulations, (c) visited the sites and made all reasonable visual investigations, and (d) correlated the information obtained from the above examinations and investigations.
- b. The bidder has given the Administration written notice of all errors, omissions, or discrepancies in the RFP in accordance with Section TC 2.08.01.5.
- c. The bidder has determined that the RFP is generally sufficient to convey an understanding of all terms and conditions that could significantly impact the cost, timeliness, quality, or performance of the Work.

2.08.03.4 Withdrawals and Resubmittals of Proposals

A bidder may withdraw Proposals after delivery, provided the request for such withdrawal is made in writing or in person before the date and time set for submission of Proposal. The bidder may revise and resubmit a Proposal so withdrawn before said date and time.

**TC 2.09 TECHNICAL PROPOSALS**

**General:** The Technical Proposal submittal shall contain concise narrative descriptions and graphic illustrations, drawings, and charts that will enable the Administration to clearly understand and evaluate the capabilities of the Design-Build team.

**Proposal Organization:** Organization of the Technical Proposal shall comprise seven parts, meet the specified page limitation, and correspond to the outline as follows:

- Cover Letter
- Project Understanding and Approach
- Project Management
- Technical Solutions
- Project Schedule

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
14 of 24

- Legal and Financial Information

**Format:**

- Paper. The Technical Proposal submittal shall be submitted on 8.5"-by-11" paper printed back to back where practical. Charts, exhibits, and other illustrative and graphical information may be on 11"-by-17" paper, but must be folded to 8.5"-by-11", with the title block showing.
- Type Font and Margins. The type face of all narrative text shall be at least 12-pt, either Arial or Times New Roman font, and all page margins must be at least ½" from sides and 1" from top and bottom. All pages shall be sequentially numbered, not including the cover letter.
- Page Limits. The Technical Proposal submittal shall be limited to the number of pages defined below. No page limit will be imposed on the appendices, although the size of the appendix should be kept within reason.
- Finding tools, such as tables of contents and page dividers shall be utilized to make the submittals easily usable.

**2.09.01 Cover Letter (Limit 2 Pages)**

A Major Participant is defined as the legal entity, firm or company, individually or as a party in a joint venture or limited liability company or some other legal entity, that will be signatory to the Design – Build Contract with the Administration. Major Participant(s) will be expected to accept joint and several liability for performance of the Design – Build Contract. Major Participants are not design subconsultants, construction subcontractors or any other subcontractors to the legal entity that signs the Design – Build Contract. A cover letter, signed by all Major Participants must:

- A. Provide the names and the roles of all Major Participants. Also identify the lead design firm.
- B. Identify a single, primary point of contact for the Design-Build Team with address, phone number, fax number, cell phone number, and E-mail address where all communications from the Administration should be directed for the proposal and bidding phases and duration of the Contract. A secondary contact for the Design-Build team shall be included (with the above information) for use when the primary contact is not available. The primary and/or secondary contact must be available 24 hours a day for the duration of the design and construction activities and during normal business hours during the bidding phase. **The Administration prefers that the primary and secondary points of contact are key staff members that will be directly involved during the proposal development, pre-bidding phase, design and construction stages.** In the event that the primary and secondary contact are not assuming their responsibility until after the bidding phase the Design-Build Team must identify the primary point of contact for the bidding phase. At least one of the key members must be involved in all phases.

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
15 of 24

- C. Include an affirmative declaration that to the best of each Major Participant's knowledge and belief, the information supplied by said Participant is true and accurate.
- D. Include a general authorization for the Administration to confirm all information contained in the Technical Proposal.
- E. The Design-Build Team is alerted to their responsibility to confirm that all Design-Build Team members, suppliers, etc. have received all addenda. The Design-Build Team is solely responsible to ensure that their team has the correct information.

**2.09.02 Project Understanding and Approach (Limit 5 Pages)**

- A. **Owner project objectives:** Provide your current understanding of the Administration's major objectives for this project, and your general plan to meet those objectives.
- B. **Major project risks:** Provide a risk assessment, based on your understanding of the Project with a design-build contracting approach:

1. What are the major risks inherent in this project and what are the risks that the design-builder team should expect to manage for this project, and how will such risks be avoided or mitigated?

In addition to the above, the Design-Build Team must specifically address the following question/s in their proposal.

Question #1

Preventative maintenance can reduce the chances of larger maintenance problems occurring. What strategy will the Design-Build Team utilize to identify and correct minor maintenance concerns that develop over the course of the project before maintenance costs increase?

Question #2

Stormwater management facility performance is a key goal of this project. How will the Design-Build Team implement a performance-based approach throughout the duration of the project?

**2.09.03 Project Management (Limit 3 Pages)**

**General:** The Design-Build team shall substantiate its ability to accomplish the Work by explaining its approach to project management, as well as its capability of providing the personnel, facilities, materials and equipment to complete the Project and meet schedule requirements.

**A. Project Management Key Functions:** Explain how the organization will perform the following functions:

- Communications Management: Document and control communications between the Design–Builder and its designers, suppliers and constructors, and between the Design–Builder and the Administration. Discussion shall include the planning and coordination of Design–Builder submittals to the Administration.
- Design and Construction Management: Indicate your preliminary list of technical design submittals for Administration review, and your plan for developing and providing these submittals. The work packages shall be identified as part of 2.09.05 Project Schedule.

Describe how the Design–Builder will establish a schedule and sequence of operations for the project. Identify your planned approach to sequencing the execution of design and construction work packages. Include the following key factors to start the project effectively.

- Work plan submittals
- Retrofit design submittals
- Obtaining retrofit permits
- Staging, material delivery/storage and office utilization
- Subcontractor plan to meet project requirements
- Accessing the sites
- Protection of completed works or works in progress during construction
- Performing inventory and final inspections

#### **2.09.04 Technical Solutions (Limit 3 Pages)**

**A. Maintenance solutions:** This project consists of maintaining a wide variety of types of stormwater management facilities.

1. What types of maintenance issues are expected to arise, and how will the Design–Build Team identify and address these in a timely manner? How will the Design–Build Team develop solutions to atypical maintenance concerns?

**B. Retrofits:** Retrofit designs are to meet all stormwater management requirements to the maximum extent possible.

1. How will the Design–Build Team ensure that each of the failing facilities are retrofitted to address the stormwater management requirements to the maximum extent possible?

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
17 of 24

2. If a certain requirement cannot be met, how will the Design-Build Team work with the Highway Hydraulics Division and MDE to develop an adequate alternative?

**2.09.05 Project Schedule (1-11x17 page for Critical Path Method)**

Develop and provide a Critical Path Method Schedule showing the path for maintenance, design, construction, and GIS inventory, and plan for completion of the project.

**2.09.06 Legal & Financial Information (Limit 8 Pages, excluding copies of underlying team agreements)**

The structure of the Legal and Financial information shall include:

- Design - Build team Organization. Briefly describe the proposed legal structure of the Design –Build Contractor and team, and provide copies of underlying agreement(s). Confidential price data may be excluded or eradicated from the organizational legal documents provided.
- Liability: State whether Major Participant firm(s) who will be party to the prime design – build contract with the Administration will have joint and several liability, and how liability is being apportioned between other firms of the design-builder team. Provide documentation that you have met the requirements for Professional Liability Insurance including agreements between participants.
- Bonding Capability: Provide evidence that the design – builder entity is capable of obtaining a Performance Bond and a Payment Bond in accordance with the requirements in Maryland’s January 2001 Standard Specifications for Construction and Materials, GP – Section 3 and appropriate for the upper range of a Project Classification “D” as defined in Maryland’s Standard Specifications for Construction and Materials, Section TC 2.01.

Such evidence shall take the form of a letter from a surety company indicating that such capacity is anticipated to be available for the contracting entity. Letters indicating “unlimited” bonding capacity are not acceptable. The surety company providing such letter must be rated at least A- by two nationally recognized credit rating agencies or at least A-VII by A.M. Best & Company. The letter should recognize the firm’s backlog and work in progress in relation to its bonding capacity.



**TC 2.10      EVALUATION OF TECHNICAL PROPOSALS**

**2.10.01      Technical Proposal – Evaluation Factors**

The following elements of the Technical Proposal will be evaluated and rated on their content, accuracy and presentation. The elements that will be used in the evaluation process are listed in the descending order of importance.

- Project Approach
- Project Management
- Project Schedule
- Legal and Financial Information

The following will be evaluated on a Pass/Fail basis and will be based on the clarity and completeness of information provided, as well as the stability and collective capabilities of the Design-Build team relative to this Project to perform as an integrated team. Each Proposal must achieve a rating of “Pass” on any “Pass/Fail” factor listed in Section 2.09.06 to receive further consideration. Failure to achieve a “Pass” rating on any “Pass/Fail” factor will result in the Proposal being rated UNACCEPTABLE; the price proposal will not be rated and the Proposer will be disqualified.

- Legal & Financial Information

**TC 2.11      PRICE BIDS**

**2.11.01      General**

Price Bids will be accepted only from those Bidders invited by the Administration in writing to submit bids. Price Bids must be submitted using the Proposal Form included in this RFP.

Bids shall be submitted on a lump sum basis, and shall include all investigation, maintenance, design, detail, construction, labor, materials, and all incidentals necessary to complete the details and construction of this project.

**2.11.02      Proposal Guaranty**

The Contractor's bid guaranty shall represent 5% of Part (a) of the Contractor's bid in accordance with the provisions of GP 2.07.

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
19 of 24

**2.11.03      Liquidated Damages**

In the event that the Scope of Work has not been completed by the contracted time of completion, a liquidated damage will be charged in accordance with the provisions of GP 8.09. The dollar amount of liquidated damages is stated on page x of y in the Proposal Form of this RFP. The Administration will be the sole approving authority in determining when the Scope of Work is considered complete.

**TC 2.12      EVALUATION OF PROPOSALS AND AWARD**

**2.12.01      Best Value Process**

The Administration will use a best value process to select the successful bidder for this project. Technical proposals will be rated independently of price proposals. For the evaluation, the price proposal will be rated equally with the technical proposal.

**2.12.02      Evaluation of Technical Proposals**

The Administration will first review and evaluate all Technical Proposals. Based on the results of these evaluations, a list of acceptable prospective bidders will be developed.

**2.12.02.1      Technical Proposal Review Committee**

The Administration will assemble a "Technical Proposal Review Committee" consisting of key staff from appropriate offices within the Administration. The Committee will review the Technical Proposals to verify that all requirements of the RFP have been met, and to evaluate the proposals.

**2.12.02.2      Evaluation Process**

Members of the Technical Proposal Review Committee will evaluate elements of the Technical Proposals as listed in 2.10.01.

**2.12.02.3      Evaluation Results**

Quality ratings for each technical evaluation factor and the overall technical rating for the technical proposal will be based on the following quality rating criteria:

EXCEPTIONAL ~ The Proposer has provided information relative to its qualifications which is considered to significantly exceed stated objectives/requirements in a beneficial

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
20 of 24

way and indicates a consistently outstanding level of quality. There are essentially no weaknesses.

GOOD ~ The Proposer has presented information relative to its qualifications which is considered to exceed stated objectives/requirements and offers a generally better than acceptable level of quality. Weaknesses, if any, are very minor.

ACCEPTABLE ~ The Proposer has presented information relative to its qualifications, which is considered to meet the stated objectives/requirements, and has an acceptable level of quality. Weaknesses are minor and can be corrected.

UNACCEPTABLE ~ The Proposer has presented information relative to its qualifications that contains significant weaknesses and/or deficiencies and/or unacceptable level of quality. The technical proposal fails to meet the stated objectives and/or requirements and/or lacks essential information and is conflicting and/or unproductive. Weaknesses/deficiencies are so major and/or extensive that a major revision to the technical proposal would be necessary and/or are not correctable.

The evaluators may also use a plus (+) or minus (-) suffix to further differentiate the strengths or limitations within a technical rating.

The technical evaluation factors of Team Experience/Qualifications and Past Performance and Team Organization are of equal importance.

Any technical proposal that receives a rating of Unacceptable in one or more technical evaluation factors will receive an overall technical proposal rating of Unacceptable.

The technical proposal will become part of the contract documents and all concept ideas provided to the Administration are expected to be included in the price proposal, final plan, design and construction phases. The Administration or successful bidder may use ideas and approaches excluding proprietary or protected information.

**2.12.03 Evaluation of Price Proposals**

Evaluation of the price proposals will be performed based on total lump sum price.

**2.12.04 Award and Execution of Contract**

All conditions of award, and award and execution procedures will be in accordance with GP-Section 3 of the Specifications.

The Design-Builder will be given Notice to Proceed after Execution of the Contract has been completed. At this point, additional field investigation may continue and design work may proceed with payment to be made as outlined in TC Section 7.

The Administration understands the probability that the successful bidder will need to start design activities as soon as possible after notification of selection and prior to issuance of the Notice to Proceed. The Administration understands this approach is an effort to maximize the

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
21 of 24

available time for construction activities. The Administration also recognizes the benefits to the public by providing an opportunity to accelerate project activities and project completion. It is reasonable that these design activities should not place the Design-Builder at risk should the Administration not issue a Notice to Proceed for events outside of the control of the Design-Builder.

The Administration will diligently process contract documents and procedures to issue a Notice to Proceed within the shortest time frame possible after receipt of appropriate documents and actions by the successful Design-Builder. In the event that the Administration does not issue a Notice to Proceed to the successful bidder for reasons beyond the control of the bidder, the Administration will reimburse actual documentable design costs up to a maximum of \$50,000 incurred by the Design-Builder after approval of the Affirmative Action Plan and Bid Bond. To receive reimbursement, the Design-Builder must submit all design calculations, plans, surveys, boring data, updated electronic files and other materials to the Administration for its use.

Actual construction or maintenance work may not begin until the additional requirements specified elsewhere in this RFP have been satisfied, including but not limited to approval of work plans, conceptual design, erosion and sediment control plans, and permits.

**2.12.05          Stipend**

The Administration understands that firms invited to submit price proposals on Design-Build projects may incur higher than normal bid preparation costs in their engineering effort to submit responsive bids for the project. Such efforts on this project are likely to involve extensive site visits, development of concept design plans, limited field survey, preliminary hydrologic and hydraulic analysis, development of extensive design details to establish materials and quantities to prepare and submit a bid.

The Administration will agree to pay the design-build firms invited by the Administration to submit bids, which are not deemed the successful low bidder, a stipend of \$25,000. Those firms invited to submit price proposals will be required to sign a contract with the Administration for payment of the stipend in exchange for electronic copy and hard copy of all documents used to develop the price proposal. The firm submitting the responsive winning bid shall not be eligible to receive the stipend.

In payment for the services covered by this Agreement, the Design-Build Team agrees that all materials, electronic files, marked up drawings, cross sections, quantity lists and other material used in the development and submission of the price proposal will become the property of the Administration and may be used in any manner at their discretion without any additional compensation to the Design-Build Team. **Three completed, signed originals of the enclosed Agreement must be submitted to Mr. Kirk G. McClelland, Director, Office of Highway Development, in the time frame outlined in the Stipend Agreement, Section 2.2(a).**

**One original invoice signed (in blue ink) and two copies along with supporting engineering materials noted above must be submitted to Mr. Kirk G. McClelland, Director, Office of Highway Development, in the time frame outlined in the Stipend Agreement, Section 2.3.** Invoices shall contain the following information:

**SPECIAL PROVISIONS**  
**BIDDING REQUIREMENTS AND CONDITIONS**

CONTRACT NO. CH3505174  
22 of 24

Invoice # - created by the Design-Build Team

Federal Tax I.D. number

Remittance Address

Contract # - CH350A51

Contract Description – Stormwater Management Design, Build, Operate and Maintain Project

Construction # - CH3505174

Payment Amount - \$25,000

Description of Work: example: "payment for Design-Build team to perform preliminary design work to prepare a bid for contract"

**STIPEND AGREEMENT**

**Contract No.**  
**Project Description:**

**THIS STIPEND AGREEMENT** (the "Agreement") is made and entered into as of the \_\_\_\_ day of \_\_\_\_\_, 200\_, by and between the STATE OF MARYLAND, acting by and through the Maryland Department of Transportation, State Highway Administration (the "SHA"), and \_\_\_\_\_ ("Proposer"), with reference to the following facts:

**A.** On \_\_\_\_\_, 200\_, the SHA issued a Request for Proposals ("RFP") for design, construction, operation and maintenance of one hundred (100) stormwater management facilities located along SHA highways throughout Charles County, including the retrofit of ten (10) failing facilities. Design-Build Project ("Project"), pursuant to procurement authority granted in State Finance and Procurement Article of the Annotated Code of Maryland and the Code of Maryland Regulations ("COMAR"), Title 21. The Stormwater Management Design, Build, Operate and Maintain Project will be owned and operated by the State Highway Administration (SHA or Administration), which owns all non-tolled state highways and bridges in the State of Maryland ("State"). The Administration is responsible for administration of design and construction of the Project.

**B.** The RFP requires each Proposer to complete and deliver a Stipend Agreement to the SHA within the time frame noted below in 2.2 (a).

**NOW, THEREFORE,** Proposer hereby agrees as follows:

**1. Work Product.**

- 1.1** The SHA hereby retains Proposer to prepare and submit, in response to the RFP a price bid that conforms in all material respects to the requirements of the RFP, as determined by the SHA, are timely received by the SHA, and satisfy the provisions set forth in the RFP.
- 1.2** All work performed by Proposer and its team members pursuant to this Agreement shall be considered work for hire, and the Work Product (as defined below) shall become the property of the SHA without restriction or limitation on its use. Neither Proposer nor any of its team members shall copyright any of the material developed under this Agreement.
- 1.3** Proposer agrees that all Work Product is, upon receipt by the SHA, the property of the SHA. The term "Work Product" shall mean all submittals made by Proposer during the RFP process, including the Proposal, exchanges of information during the pre-proposal and post-proposal period. However, the term "Work Product" shall specifically exclude patented rights in previously existing proprietary technology.
- 1.4** In consideration for the SHA's agreement to make payment hereunder, Proposer agrees that the SHA shall be entitled to use all Work Product, without any further compensation or consideration to the Proposer, in connection with the RFP, the Contract Documents,

the Project and future procurements by the SHA. Notwithstanding the foregoing, SHA shall not be entitled to use information submitted by Proposer to the SHA in which the SHA determines is exempt from disclosure under the Maryland Public Information Act (“PIA”), Title 10, Subtitle 6, Part III of the State Government Article of the Annotated Code of Maryland, unless the RFP otherwise provides.

- 1.5** The SHA acknowledges that the use of any of the Work Product by the SHA or the Design-Builder is at the sole risk and discretion of the SHA and the Design-Builder, and shall in no way be deemed to confer liability on the unsuccessful Proposer.

**2.0 Compensation And Payment.**

- 2.1** Compensation payable to Proposer for the Work Product described herein shall be \$25,000 if all of the following conditions are met:

- (a) Proposer’s Proposal, was not the apparent low bidder or was not selected for award or it was awarded the Contract but the Contract was terminated by SHA for its convenience prior to issuance of a notice to proceed.

- 2.2** In its sole discretion, the SHA may pay compensation to Proposer, in an amount to be determined by the SHA, for the Work Product described herein under the following conditions:

- (a) For any Proposer meeting the criteria identified in Section 2.1, above.

Any amount paid under this subparagraph (a) will not exceed \$25,000 and will be subject to audit of the costs incurred by the Proposer in preparing its Technical Proposal and price bid. Auditors shall have access to all books, records, documents and other evidence and accounting principles and practices sufficient to reflect properly all direct and indirect costs of whatever nature claimed to have been incurred. Failure of the Proposer or its team members to maintain and retain sufficient records to allow the auditors to verify all or a portion of the claim or to permit the auditors access to the books and records of Proposer and its team members shall constitute a waiver of the right to be paid a stipend and shall bar any recovery hereunder.

Any Proposer wishing to apply for a stipend under this subparagraph (a) shall submit the completed Agreement to the SHA within 10 days of price proposals being opened. Eligibility of receipt of a stipend is dependent upon meeting the conditions set forth in Section 2.1. of this Agreement and TC Section 2.12.05 of the RFP.

- (b) If the procurement is cancelled prior to the Bid Opening Date.

Proposers will be provided the opportunity, at their option, of delivering to the SHA the Work Product of their Proposal preparations to date. There is no specific format required for such Work Product. Those Proposers that choose to

deliver their Work Product may be paid an amount that the SHA deems to be appropriate consideration for the Work Product. No portion of the stipend amount will be paid in the event a Proposer chooses not to deliver its Work Product. Any amount paid under this subparagraph (b) will not exceed the amount identified in Section 2.1 and will be subject to the audit criteria in Section 2.2 (a).

- 2.3** Any payment of compensation owing hereunder will be made (i) within 30 days after receipt of a proper invoice submitted to the SHA under this Section 2.3 or (ii) if an award is made, when any complaint against award is administratively and judicially resolved. Such invoice and supporting engineering work may not be submitted until one business day after the earlier to occur of (a) notice by SHA that award of contract has occurred, or (b) cancellation of the procurement. **Invoices must be received within 30 days of said notification by SHA to be honored for payment.**

**3.0 Indemnities.**

- 3.1** Subject to the limitations contained in Section 3.2, Proposer shall indemnify, protect and hold harmless the SHA and its directors, officers, employees and contractors from, and Proposer shall defend at its own expense, all claims, costs, expenses, liabilities, demands, or suits at law or equity arising in whole or in part from the negligence or willful misconduct of Proposer or any of its agents, officers, employees, representatives or subcontractors or breach of any of Proposer's obligations under this Agreement.
- 3.2** This indemnity shall not apply with respect to any claims, demands or suits arising from use of the Work Product by the SHA or its contractors.

**4.0 Compliance With Laws.**

- 4.1** Proposer shall comply with all federal, state, and local laws, ordinances, rules, and regulations applicable to the work performed or paid for under this Agreement and covenants and agrees that it and its employees shall be bound by the standards of conduct provided in applicable laws, ordinances, rules, and regulations as they relate to work performed under this Agreement. Proposer agrees to incorporate the provisions of this paragraph in any subcontract into which it might enter with reference to the work performed pursuant to this Agreement.
- 4.2** The Proposer agrees (a) not to discriminate in any manner against an employee or applicant for employment because of race, color, religion, creed, age, sex, marital status, national origin, ancestry or disability of a qualified individual with a disability; (b) to include a provision similar to that contained in subsection (a) in any subcontract except a subcontract for standard commercial supplies or raw materials; and (c) to post and to cause subcontractors to post in conspicuous places available to employees and applicants for employment, notices setting forth the substance of this clause.



**5.0     Assignment.**

Proposer shall not assign this Agreement without the SHA's prior written consent. Any assignment of this Agreement without such consent shall be null and void.

**6.0     Miscellaneous.**

**6.1**     Proposer and the SHA agree that Proposer, its team members, and their respective employees are not agents of the SHA as a result of this Agreement.

**6.2**     All words used herein in the singular form shall extend to and include the plural. All words used in the plural form shall extend and include the singular. All words used in any gender shall extend to and include all genders.

**6.3**     This Agreement, together with the RFP, as amended from time to time, the provisions of which are incorporated herein by reference, embodies the entire agreement of the parties with respect to the subject matter hereof. There are no promises, terms, conditions, or obligations other than those contained herein or in the RFP, and this Agreement shall supersede all previous communications, representation, or agreements, either verbal or written, between the parties hereto.

**6.4**     It is understood and agreed by the parties hereto that if any part, term, or provision of this Agreement is by the courts held to be illegal or in conflict with any law of the State of Maryland, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term, or provisions to be invalid.

**6.5**     This instrument may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

**6.6**     This Agreement shall be governed by and construed in accordance with the laws of the State of Maryland.

**IN WITNESS WHEREOF**, the parties have executed this Agreement as of the date first written above.

**STATE OF MARYLAND by STATE HIGHWAY ADMINISTRATION**

WITNESS/ATTEST:

Approved for Execution:

\_\_\_\_\_  
  
\_\_\_\_\_

\_\_\_\_\_  
Authorized Signature

Director, Office of Highway Development

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

**Maryland State Highway Administration**

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Approved as to form and legal sufficiency:

---

Assistant Attorney General

---

[Signature for Corporations/LLCs]

WITNESS/ATTEST:

---

Proposer Name

By \_\_\_\_\_ (Seal)

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

---

Printed Name

---

Printed Name

---

Federal ID # or Social Security #

---

**TC SECTION 3  
SCOPE OF WORK FOR DESIGN, BUILD, OPERATE AND MAINTAIN  
TERMS AND CONDITIONS**

**TC 3.02 CONSTRUCTION DOCUMENTS TO SUCCESSFUL BIDDER**

**DELETE**: All references to Cross Sections.

**TC 3.03 CONTINGENT ITEMS**

**DELETE**: This section in its entirety.

**ADD**: After section TC 3.05

**TC 3.06 DESIGN, BUILD, OPERATE AND MAINTAIN SCOPE OF WORK**

This project includes, but is not limited to the following items of work, which the Design-Build Team shall perform and provide. This section sets forth provisions that are design and construction related; however, this section also impacts construction activities and other work.

Specific design and construction criteria are discussed separately following this section.

**3.06.01 General Requirements**

The Design-Build Team shall complete all work in five stages, Stage I – Routine Maintenance, Stage II – Remedial Maintenance, Stage III – Retrofit Design and Permitting, Stage IV – Retrofit Construction, and Stage V – Inventory Inspections and Database updates. Stages shall be conducted simultaneously with the following exceptions: Stage IV work on a facility shall not begin until final design and permitting required under Stage III is complete for that facility, and Stage V shall be conducted in the third year of the contract, following completion of Stages II, III, and IV.

The Design-Build Team shall provide the services and perform tasks described in this Request for Proposals in compliance with the policies and procedures of the Administration and requirements set forth in “Volume II -Specifications for Consulting Engineers’ Services,” dated April 1986, Sections as follows:

- Section VII Surveys and Plats
- Section IX Landscape Architecture
- Section X Construction Engineering and Inspection
- Section XI Critical Path Method

The Design-Build Team shall comply with all Federal, State and local laws, ordinances and regulations applicable to the activities and obligations associated with this project.

**3.06.02 Design Personnel Identified in Proposal**

The designer and design subcontractors shall utilize the key personnel identified in Section TC-2.09 and their Technical Proposal to manage the project and supervise engineers and technicians in completing the design in a timely manner to permit construction activities. **Changes in key staff identified in the technical proposal must be approved in writing by the Administration, and replacement personnel must have equal or better qualifications than the key personnel identified in the proposal.** The format for replacement staff resumes must be in the same format as required for the technical proposal including requirements thereof. The Administration shall be the sole judge as to whether replacement staff members are acceptable.

**3.06.03 Qualified**

The Design-Build Team shall have experienced personnel qualified in the development of plans, specifications and estimates for the following: Hydrologic/Hydraulic Engineering (including stormwater management and erosion & sediment control); Geotechnical Engineering; Landscape Architecture including SWM planting; and Traffic Engineering including traffic control.

The Design-Build Team shall also include a member who is experienced in managing large quantities of GIS data and is able to utilize and update the Administration's ArcGIS geodatabase. This member shall attend a two-day workshop provided by the Administration which will discuss the proper procedures for maintaining the geodatabase.

**3.06.04 Design Constraints**

The Design-Build Team shall construct the project within available right of way unless additional right of way is needed for access or to meet minimum requirements, for which it is the responsibility of the Design-Build Team to identify the right of way needs. This includes the final Project, as well as any and all work required to maintain drainage and traffic during construction and any and all work required to control erosion and sediment laden water. The Design-Build Team will be responsible for preparing right-of-way acquisition plats, but will not be required to obtain the right-of-way.

**3.06.05 Design Exceptions**

Any elements of design that fall below the design standards listed in TC 3.09 through 3.15 and AASHTO will require a design exception.

The Design-Build Team shall submit the design exception request to the Administration's Project Manager, and receive written approval before proceeding with the design. Requests for design exceptions that affect construction underway or complete shall not be a basis for approval of the exception.

The request will explain and justify the use of the proposed design and include the following information (at a minimum):

- A description of existing conditions, including existing design values and design constraints.

- A description of design standards that would normally be applied.
- A description of the actual design values proposed.
- A description of R/W impacts, environmental considerations or other factors that justify the exception.

The Administration reserves the right to deny design exceptions that, in its judgment, are unsafe, otherwise contrary to normal practice, and/or inconsistent with the project or community goals.

### **3.06.06      Quality of Work**

#### **3.06.06.1      Design Quality Control Plan**

The Design-Build Team shall submit a Quality Control Plan (QCP) for review and approval by the Administration, before notice-to-proceed will be given to begin work. The QCP must be a complete and clear plan to achieve high quality project performance, including all related elements and lower tier subcontractors/Design-Build Teams. The QCP must include an organization structure and reporting requirements that demonstrate that quality control personnel have sufficient independence to allow them to be primarily concerned with quality, as opposed to the schedule and budget. As a minimum, the QCP shall include calculations, work and design plans, GIS data management, specifications, design coordination, construction coordination for material activity and document control.

The Design-Build Team must adhere to the approved QCP throughout the duration of the project.

#### **3.06.06.2      Responsibility of Design-Build Team**

The Design-Build Team shall be fully responsible for performing the Scope of Work in a complete, coordinated, economical, and timely manner, in compliance with the RFP. The Design-Build Team shall follow the QCP and receive written authorization from the Administration for modifications to the plan. The Design-Build Team shall request from the Administration, in writing, all exceptions to the plan, and the Administration will respond in a timely fashion to each request in writing.

The Design-Build Team shall include a complete check of all design and other calculations, work and design plans, GIS data and specifications in this plan. This check shall include both the overall concept and various element coordination checks and the detail check of the GIS data and calculations for each plan and specification. The check shall be performed by experienced design professionals, licensed in the State of Maryland that have not participated in any of the design up to the checking process. These individuals may be employed either by the Designer or by an independent design firm other than the Design-Build Team.

All plans and specifications required for construction of a work element shall be checked prior to their transmittal to the Administration.

The Administration may require that the Design-Build Team provide checked calculations to the Administration for specific elements of the design prior to approving the design. The Administration will endeavor to provide the Design-Build Team with written requests for such submittals at least 7 days prior to the date the Administration requires the submittal. The Administration may request that checked calculations be submitted on demand. In such instances, the Design-Build Team shall provide the checked calculations immediately.

**3.06.07 Calculation Certification**

The Design-Build Team shall provide the following certifications concerning the calculations:

**3.06.07.1 Designer**

Within 30 days of the Notice of Award, the corporate officer responsible for quality for the Design-Build Team and the Designer shall certify that the calculations, plans, GIS data, specifications and other technical documents for which they are responsible shall be prepared in conformance with the QCP.

**3.06.07.2 Checker**

Within 30 days of the Notice of Award, the corporate officer responsible for quality for the Design-Build Team and all organization(s) that will check the calculations and data shall certify, in writing, that the design check shall be performed in conformance with the QCP.

**3.06.07.3 Transmittals**

On the transmittal for each submittal of calculations, work and design plans, specification, shop drawings, as-builts, GIS data and other technical documents, the Design-Build Team, Designer (as appropriate) and the checker shall certify that the documents were prepared and checked in conformance with the QCP.

**3.06.07.4 Conclusion of Work**

At the conclusion of the Work and with the transmittal of the Record Documents to the Administration, the corporate officer responsible for quality for the Design-Build Team, the Designer, and all organizations that have checked the documents shall sign, seal, and certify in writing, that all calculations, plans, GIS data, specifications and technical documents, for which they were responsible, were prepared in conformance with the QCP.

**3.06.07.5 Professional Seals**

All calculations, plans, specifications and other technical documents transmitted to the Administration shall be signed and sealed by both of the Professional Engineers licensed

in the State of Maryland who are responsible for the design and checking of that document. Landscape plans shall be prepared, signed, and sealed by a Landscape Architect licensed in the State of Maryland. The certifications at the start and conclusion of the Work, required in Section TC 3.08.03, shall also be sealed by a Professional Engineer licensed in the State of Maryland and signed by the corporate representative of the Design-Build Team, Designer and checker(s).

### 3.06.07.6 Design Quality Assurance

The Administration may periodically audit the Design-Build Team's, the Designer's, and the checker's work to ensure that it is being done in conformance with the Contract requirements. The Administration will endeavor to perform these audits so as not to interfere with the progress in the work. The Design-Build Team shall fully cooperate with and assist the Administration in conducting such audits. The Design-Build Team shall maintain all records and any other elements of the work in a current and organized manner so that, should the Administration audit the work, everything shall be readily available.

Any quality assurance reviews or audits conducted by the Administration shall in no way remove from the Design-Build Team the responsibility for designing and constructing all elements of the Work in conformance with its Quality Control Plan and all requirements of the Contract. The Administration shall at all times have the authority to require the Design-Build Team to re-perform any work that the Administration determines is not in conformance with any of the provisions of the Contract or with any drawings, specifications, other documents prepared by the Design-Build Team. Any re-work shall not serve as the basis for claims for additional compensation or time by the Design-Build Team.

### 3.06.08 Past Inventory and Inspection Results

The Administration completed an inventory and inspection of stormwater management best management practices (BMPs) in Charles County in April, 2008. An ArcGIS shapefile containing the locations of the facilities is provided with this document. An access database containing the results of the inventory and inspections is also included. Below is a summary of the BMPs, including the BMP type, Performance Rating and SHA Response Rating for each.

**TABLE 3.06-1**  
**CHARLES COUNTY STORMWATER MANAGEMENT BEST MANAGEMENT**  
**PRACTICES INVENTORY AND INSPECTION SUMMARY**

SWM Facility #	Facility Type	Performance Rating	SHA Response Rating
	Extended Detention Shallow		
080001	Wetland	C	II
080003	Dry Swale	A	I
080004	Wet Extended Detention	B	II
080005	Dry Extended Detention Pond	B	II

**TABLE 3.06-1**  
**CHARLES COUNTY STORMWATER MANAGEMENT BEST MANAGEMENT**  
**PRACTICES INVENTORY AND INSPECTION SUMMARY**

SWM Facility #	Facility Type	Performance Rating	SHA Response Rating
080006	Dry Extended Detention Pond	B	II
080007	Wet Extended Detention	C	II
080008	Wet Extended Detention	B	II
080009	Wet Swale	B	II
080010	Wet Extended Detention	B	II
080011	Wet Extended Detention	B	II
080012	Wet Extended Detention	C	II
080013	Dry Extended Detention Pond	A	I
080014	Infiltration Trench	D	IV
080015	Infiltration Trench	B	II
080016	Wet Extended Detention	B	II
080019	Detention Pond	A	II
080020	Infiltration Trench	B	II
080021	Infiltration Trench	B	II
080022	Infiltration Trench	B	II
080023	Infiltration Trench	B	II
080025	Infiltration Trench	C	III
080026	Infiltration Trench	B	III
080027	Infiltration Trench	C	III
080028	Infiltration Trench	B	III
080029	Infiltration Trench	C	III
080030	Infiltration Trench	C	III
080031	Infiltration Trench	C	III
080032	Infiltration Trench	B	II
080033	Infiltration Trench	A	II
080034	Infiltration Trench	C	III
080035	Infiltration Trench	A	I
080036	Infiltration Trench	A	I
080037	Infiltration Trench	D	III
080038	Wet Extended Detention	B	II
080039	Infiltration Trench	D	IV
080040	Infiltration Trench	D	IV
080041	Infiltration Trench	D	IV
080042	Infiltration Trench	D	IV
080043	Infiltration Trench	D	IV
080044	Infiltration Trench	D	IV
080045	Detention Pond	B	II
080048	Infiltration Trench	C	III
080049	Infiltration Trench	C	III



**TABLE 3.06-1**  
**CHARLES COUNTY STORMWATER MANAGEMENT BEST MANAGEMENT**  
**PRACTICES INVENTORY AND INSPECTION SUMMARY**

SWM Facility #	Facility Type	Performance Rating	SHA Response Rating
080051	Infiltration Basin	D	IV
080052	Infiltration Trench	B	II
080053	Infiltration Trench	C	III
080054	Infiltration Trench	C	III
080055	Infiltration Basin	B	II
080056	Retention Pond	B	II
080057	Infiltration Basin	D	III
080058	Infiltration Trench	C	III
080059	Infiltration Trench	C	III
080060	Infiltration Trench	B	II
080061	Infiltration Trench	C	III
080062	Infiltration Trench	A	I
080063	Detention Pond	B	II
080064	Retention Pond	B	II
080065	Retention Pond	B	II
080066	Retention Pond	C	II
080067	Retention Pond	C	II
080068	Retention Pond	B	II
080069	Retention Pond	B	II
080070	Retention Pond	C	II
080071	Retention Pond	D	II
080073	Detention Pond	B	II
080074	Retention Pond	B	II
080075	Retention Pond	B	II
080076	Infiltration Trench	A	I
080079	Infiltration Trench	B	II
080080	Detention Pond	B	II
080081	Infiltration Basin	B	II
080082	Infiltration Trench	C	III
080083	Infiltration Trench	D	IV
080084	Infiltration Trench	C	III
080085	Retention Pond	A	II
080086	Infiltration Trench	C	III
080087	Retention Pond	B	II
080088	Retention Pond	B	II
080089	Infiltration Basin	B	III
080090	Infiltration Basin	C	III
080091	Retention Pond	C	II
080092	Detention Pond	C	II

**TABLE 3.06-1**  
**CHARLES COUNTY STORMWATER MANAGEMENT BEST MANAGEMENT**  
**PRACTICES INVENTORY AND INSPECTION SUMMARY**

SWM Facility #	Facility Type	Performance Rating	SHA Response Rating
080093	Infiltration Trench	B	III
080095	Infiltration Basin	D	IV
080096	Grass Channel	A	II
080097	Grass Channel	A	I
080098	Grass Channel	A	I
080099	Grass Channel	A	I
080100	Grass Channel	A	I
080101	Grass Channel	A	I

The BMP Performance Ratings are discussed in detail in Table 3.2 of the *Maryland State Highway Administration Storm Water NPDES Program Standard Procedures Manual, Chapter 3*, which is included with this document. “Functioning as designed”, as it relates to this contract, is defined as a performance rating of “A” or “B”. The performance ratings are based on specific BMP Inspection Criteria for a wide range of facility components. These component ratings are included in the inspection database for each facility.

The SHA response rating is an estimate of the extent of required maintenance activities to restore the facility to the designed conditions. The SHA response ratings are defined as follows:

**TABLE 3.06-2**  
**SHA RESPONSE RATINGS**

SHA Response Rating	Category	Explanation
I	No Maintenance Response Required	No Maintenance Needed
II	Minor Maintenance	Perform routine maintenance to sustain BMP performance. Can be performed with typical maintenance crew.
III	Major Maintenance	Maintenance or repair is needed to return the site to original functionality within the existing footprint of the facility. Remediation is more significant than just routine maintenance and will likely require heavy equipment mobilization, construction material and possible Maintenance of Traffic.

**TABLE 3.06-2**  
**SHA RESPONSE RATINGS**

SHA Response Rating	Category	Explanation
IV	Retrofit	Retrofit design and construction is required since the BMP cannot be returned to its original functionality within its existing footprint. It involves reconstruction of the facility from one to another type of BMP.
V	Immediate Response	Public safety hazards exist that require immediate correction.
VI	Abandonment	BMP is not maintainable and will not provide sufficient benefit to justify retrofit.

### **3.06.09 Routine Maintenance (Stage I)**

Regardless of the Performance Ratings and SHA Response Ratings, routine maintenance shall be performed for all one hundred (100) facilities. The Designer shall visit each of the facilities and determine what routine maintenance requirements are necessary. The designer shall then prepare a Work Order for Administration approval to address the maintenance requirements. At a minimum, the routine maintenance will address all of the following (as applicable):

**TABLE 3.06-3**  
**ROUTINE MAINTENANCE REQUIREMENTS BY BMP TYPE**

Facility Type	Minimum Maintenance Requirements
Dry Swale	<ul style="list-style-type: none"> <li>• Mow side slopes and swale bottom</li> <li>• Reseed all bare areas</li> <li>• Repair check dams</li> <li>• Remove trash and debris</li> <li>• Remove excess sediment</li> </ul>
Wet Swale	<ul style="list-style-type: none"> <li>• Eradicate weeds</li> <li>• Mow side slopes and swale bottom</li> <li>• Reseed all bare areas</li> <li>• Repair check dams</li> <li>• Remove trash and debris</li> <li>• Remove excess sediment</li> </ul>

**TABLE 3.06-3**  
**ROUTINE MAINTENANCE REQUIREMENTS BY BMP TYPE**

Facility Type	Minimum Maintenance Requirements
Grass Channel	<ul style="list-style-type: none"> <li>• Eradicate weeds</li> <li>• Mow side slopes and swale bottom</li> <li>• Reseed all bare areas</li> <li>• Remove trash and debris</li> <li>• Remove excess sediment</li> </ul>
Extended Detention Shallow Wetland	<ul style="list-style-type: none"> <li>• Eradicate weeds</li> <li>• Replace dead or stressed plants</li> <li>• Stabilize eroded areas</li> <li>• Mow both sides of embankment and side slopes</li> <li>• Remove trash and debris</li> <li>• Remove excess sediment from riser structure</li> <li>• Eradicate invasive species</li> <li>• Repair perimeter fence</li> <li>• Remove woody vegetation from embankment</li> <li>• Inspect and repair trash rack</li> <li>• Inspect and clean low flow orifice</li> </ul>
Detention Pond	<ul style="list-style-type: none"> <li>• Stabilize eroded areas</li> <li>• Mow both sides of embankment, side slopes, and pond bottom</li> <li>• Remove trash and debris</li> <li>• Remove excess sediment from riser structure</li> <li>• Eradicate invasive species</li> <li>• Repair perimeter fence</li> <li>• Remove woody vegetation from embankment</li> <li>• Inspect and repair trash rack</li> </ul>
Dry Extended Detention Pond	<ul style="list-style-type: none"> <li>• Stabilize eroded areas</li> <li>• Mow both sides of embankment, side slopes, and pond bottom</li> <li>• Remove trash and debris</li> <li>• Remove excess sediment from riser structure</li> <li>• Eradicate invasive species</li> </ul>

**TABLE 3.06-3**  
**ROUTINE MAINTENANCE REQUIREMENTS BY BMP TYPE**

Facility Type	Minimum Maintenance Requirements
	<ul style="list-style-type: none"> <li>• Repair perimeter fence</li> <li>• Remove woody vegetation from embankment</li> <li>• Inspect and clean low flow orifice</li> <li>• Inspect and repair trash rack</li> </ul>
Retention Pond	<ul style="list-style-type: none"> <li>• Stabilize eroded areas</li> <li>• Mow both sides of embankment and side slopes</li> <li>• Remove trash and debris</li> <li>• Remove excess sediment from riser structure</li> <li>• Eradicate invasive species</li> <li>• Repair perimeter fence</li> <li>• Remove woody vegetation from embankment</li> </ul>
Wet Extended Detention Pond	<ul style="list-style-type: none"> <li>• Inspect and repair trash rack</li> <li>• Stabilize eroded areas</li> <li>• Mow both sides of embankment and side slopes</li> <li>• Remove trash and debris</li> <li>• Remove excess sediment from riser structure</li> <li>• Eradicate invasive species</li> <li>• Repair perimeter fence</li> <li>• Remove woody vegetation from embankment</li> <li>• Inspect and repair trash rack</li> <li>• Inspect and clean low flow orifice</li> </ul>
Infiltration Basin	<ul style="list-style-type: none"> <li>• Stabilize eroded areas</li> <li>• Mow both sides of embankment and side slopes</li> <li>• Remove trash and debris</li> <li>• Remove excess sediment from riser structure</li> <li>• Repair perimeter fence</li> <li>• Remove woody vegetation from</li> </ul>

**TABLE 3.06-3**  
**ROUTINE MAINTENANCE REQUIREMENTS BY BMP TYPE**

Facility Type	Minimum Maintenance Requirements
	embankment
	<ul style="list-style-type: none"> <li>• Inspect and repair trash rack</li> <li>• Inspect and repair monitoring well</li> </ul>
Infiltration Trench	<ul style="list-style-type: none"> <li>• Mow adjacent areas</li> <li>• Reseed or stabilize all bare areas</li> <li>• Remove trash and debris</li> <li>• Remove excess sediment</li> <li>• Inspect and repair monitoring well</li> </ul>

**Mowing, as described above, shall be done twice per year during the growing season: once in the spring, and once in the fall, and will not require Work Order approval. The rest of the maintenance activities will be performed annually following Work Order approval.**

### **3.06.10 Remedial Maintenance (Stage II)**

Inspections were performed for all one hundred (100) facilities and a list of action items were developed for facilities requiring maintenance. The inspection results are contained within a Microsoft Access database which is included with this RFP. The Designer shall visit each facility and prepare a Work Order to address each action item identified, as well as any other maintenance problems that exist. It is the Design-Build Team's responsibility to verify the conditions and the action items prior to submission of the Bid. The identification of additional maintenance items shall not serve as the basis for claims for additional compensation or time by the Design-Build Team.

The action items identified during the inspections are summarized below. The ten (10) facilities that were given an SHA Response Rating of IV have been removed from the list, as these facilities have failed and are in need of retrofit. Retrofit facilities shall be redesigned in accordance with Section TC 3.06.11, and shall therefore not be maintained as part of Stage II.

**TABLE 3.06-4**  
**MAINTENANCE REQUIREMENTS FOR EACH FACILITY**

SWM Facility #	Maintenance Requirements
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**TABLE 3.06-4**  
**MAINTENANCE REQUIREMENTS FOR EACH FACILITY**

SWM Facility #	Maintenance Requirements
80001	<ul style="list-style-type: none"> <li>• Mow turf on the upstream embankment</li> <li>• Replace missing riprap</li> <li>• Repair erosion issues through out the facility and within impoundment area</li> <li>• Remove overgrown vegetation within the facility</li> </ul>
80003	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80004	<ul style="list-style-type: none"> <li>• Remove sediment from forebay of facility</li> <li>• Remove overgrown vegetation within the facility, including cattail within impoundment area</li> <li>• Stabilize minor erosion issues within facility</li> </ul>
80005	<ul style="list-style-type: none"> <li>• Clean and remove algae from impoundment area</li> <li>• Stabilize minor erosion issues within facility</li> </ul>
80006	<ul style="list-style-type: none"> <li>• Stabilize erosion on the downstream and upstream embankment</li> <li>• Stabilize erosion and stability at the inflows into the BMP</li> </ul>
80007	<ul style="list-style-type: none"> <li>• Remove sediment from BMP impoundment area</li> <li>• Replace riprap</li> <li>• Stabilize erosion on the upstream embankment</li> <li>• Stabilize erosion at the inflow into the BMP</li> <li>• Correct excessive ponding</li> </ul>
80008	<ul style="list-style-type: none"> <li>• Remove sediment from BMP impoundment area</li> <li>• Stabilize erosion within BMP</li> <li>• Correct excessive ponding</li> </ul>
80009	<ul style="list-style-type: none"> <li>• Mow turf on the upstream embankment</li> <li>• Replace cover and seed bare spots on embankment</li> <li>• Clean and remove algae from impoundment area</li> <li>• Stabilize erosion within BMP</li> </ul>
80010	<ul style="list-style-type: none"> <li>• Repair and/or replace manhole frame on riser</li> <li>• Remove cattails within impoundment area</li> <li>• Clean and remove trash from within impoundment area</li> <li>• Stabilize erosion within BMP</li> <li>• Remove sediment from BMP impoundment area</li> </ul>
80011	<ul style="list-style-type: none"> <li>• Stabilize erosion within BMP</li> <li>• Replace cover and seed bare spots on embankment</li> <li>• Remove sediment from BMP impoundment area</li> </ul>

**TABLE 3.06-4**  
**MAINTENANCE REQUIREMENTS FOR EACH FACILITY**

SWM Facility #	Maintenance Requirements
80012	<ul style="list-style-type: none"> <li>• Mow turf on the upstream embankment</li> <li>• Clean and remove trash from within impoundment area</li> <li>• Clean and remove algae from impoundment area</li> <li>• Replace cover and seed bare spots on embankment</li> <li>• Stabilize erosion at the inflow into the BMP</li> <li>• Pretreatment area failing; may need to retrofit pretreatment</li> </ul>
80013	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80015	<ul style="list-style-type: none"> <li>• Clean and remove trash from within impoundment area</li> </ul>
80016	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> </ul>
80019	<ul style="list-style-type: none"> <li>• Repair spalling on fence</li> <li>• Replace lock on gate</li> </ul>
80020	<ul style="list-style-type: none"> <li>• Repair cracked observation well</li> <li>• Well cap missing - replace well cap</li> <li>• BMP needs mowing</li> </ul>
80021	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Remove stone from observation well</li> <li>• Repair cracked observation well</li> <li>• Well cap missing - replace well cap</li> </ul>
80022	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Remove vegetation and trees growing around inflow pipe</li> </ul>
80023	<ul style="list-style-type: none"> <li>• Repair cracked observation well</li> <li>• Well cap missing - replace well cap</li> <li>• Remove sediment from the BMP inflow</li> </ul>
80025	<ul style="list-style-type: none"> <li>• Remove sediment at the downstream embankment</li> <li>• Correct excessive ponding</li> </ul>
80026	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Remove sediment from observation well</li> <li>• Correct excessive ponding</li> </ul>
80027	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Remove sediment from observation well</li> <li>• Correct excessive ponding</li> </ul>



**TABLE 3.06-4**  
**MAINTENANCE REQUIREMENTS FOR EACH FACILITY**

SWM Facility #	Maintenance Requirements
80028	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Remove sediment from observation well</li> <li>• Correct excessive ponding</li> <li>• Remove trash from BMP</li> </ul>
80029	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Correct excessive ponding</li> </ul>
80030	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Remove sediment from observation well</li> <li>• Correct excessive ponding</li> </ul>
80031	<ul style="list-style-type: none"> <li>• Remove downed trees within facility</li> <li>• Remove sediment from BMP impoundment area</li> <li>• Stabilize erosion at inflow into BMP</li> </ul>
80032	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Correct excessive ponding</li> </ul>
80033	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Well cap missing - replace well cap</li> <li>• Remove debris from impoundment area</li> <li>• Cut and remove excess vegetation from BMP area</li> </ul>
80034	<ul style="list-style-type: none"> <li>• Remove downed trees within facility</li> <li>• Remove vegetation, trash, and debris from BMP</li> <li>• Correct excessive ponding</li> </ul>
80035	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80036	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80037	<ul style="list-style-type: none"> <li>• Repair cracked observation well</li> <li>• Well cap missing - replace well cap</li> <li>• Correct excessive ponding</li> </ul>
80038	<ul style="list-style-type: none"> <li>• Reset pipe to convey water at principle spillway?</li> <li>• Remove cattail from riser area</li> </ul>
80045	<ul style="list-style-type: none"> <li>• Plant vegetation within BMP</li> <li>• Stabilize erosion within BMP</li> </ul>
80048	<ul style="list-style-type: none"> <li>• Install observation well</li> <li>• Remove sediment from within BMP</li> <li>• Stabilize erosion within BMP</li> <li>• Correct excessive ponding</li> </ul>

**TABLE 3.06-4**  
**MAINTENANCE REQUIREMENTS FOR EACH FACILITY**

SWM Facility #	Maintenance Requirements
80049	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Install observation well</li> <li>• Remove sediment and debris from within BMP</li> <li>• Correct excessive ponding</li> <li>• Stabilize erosion and stability at BMP inflow</li> </ul>
80052	<ul style="list-style-type: none"> <li>• Stabilize minor erosion at the BMP inflow</li> </ul>
80053	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Install observation well</li> </ul>
80054	<ul style="list-style-type: none"> <li>• Repair and/or replace manhole frame on riser</li> <li>• Remove trash and stone from observation well</li> <li>• Cut and remove overgrown vegetation within BMP</li> <li>• Remove debris and dead leafy debris from BMP</li> </ul>
80055	<ul style="list-style-type: none"> <li>• Reset pipe to convey water at principle spillway</li> <li>• Cut and remove overgrown vegetation within BMP</li> </ul>
80056	<ul style="list-style-type: none"> <li>• Cut and remove vegetation from outfall pipe</li> <li>• Repair spalling on fence</li> <li>• Remove sediment from BMP impoundment area</li> <li>• Stabilize minor erosion within BMP</li> <li>• Replace lock on gate</li> </ul>
80057	<ul style="list-style-type: none"> <li>• Reset pipe to convey water at principle spillway</li> <li>• Remove woody vegetation, trash, and debris from impoundment area</li> <li>• Stabilize erosion on upstream and downstream embankment and toe</li> <li>• Stabilize erosion at the BMP inflows, within BMP impoundment area, and in downstream channel at the outfall</li> <li>• Establish ground cover on bare spots on embankment</li> </ul>
80058	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Remove sediment and stone from observation well</li> </ul>
80059	<ul style="list-style-type: none"> <li>• Remove sediment from BMP inflow</li> <li>• Remove debris and dead leafy debris from BMP</li> <li>• Repair broken observation well</li> </ul>
80060	<ul style="list-style-type: none"> <li>• Reset pipe to convey water at principle spillway</li> <li>• Cut and remove vegetation from within BMP</li> <li>• Remove debris from within BMP</li> </ul>

**TABLE 3.06-4**  
**MAINTENANCE REQUIREMENTS FOR EACH FACILITY**

SWM Facility #	Maintenance Requirements
	<ul style="list-style-type: none"> <li>• Stabilize debris within BMP</li> </ul>
80061	<ul style="list-style-type: none"> <li>• Repair seepage of the observation well</li> <li>• Install observation well</li> <li>• Cut and remove overgrown vegetation from within BMP</li> <li>• Remove dead leafy debris within BMP</li> <li>• Stabilize erosion at the BMP inflows, within BMP impoundment area, and in downstream channel at the outfall</li> </ul>
80062	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80063	<ul style="list-style-type: none"> <li>• Reset pipe to convey water at principle spillway</li> <li>• Cut and remove overgrown vegetation from within BMP</li> </ul>
80064	<ul style="list-style-type: none"> <li>• Remove trash and debris from forebay</li> <li>• BMP requires mowing</li> <li>• Add riprap to the pretreatment area</li> <li>• Remove sediment from BMP impoundment area</li> <li>• Cut and remove overgrown vegetation from within BMP</li> <li>• Stabilize erosion on the upstream and downstream embankments</li> <li>• Stabilize erosion within BMP</li> </ul>
80065	<ul style="list-style-type: none"> <li>• Reset pipe to convey water at the riser structure</li> <li>• Cut and remove overgrown vegetation around riser</li> <li>• Remove trash from BMP area</li> <li>• Stabilize erosion on the upstream and downstream embankments</li> <li>• Stabilize erosion at the BMP inflow</li> </ul>
80066	<ul style="list-style-type: none"> <li>• Reset pipe to convey water at the downstream embankment</li> <li>• Remove trash from BMP area</li> <li>• Replace riprap where needed within BMP and at outfall</li> <li>• Resolve pretreatment issues</li> </ul>

**TABLE 3.06-4**  
**MAINTENANCE REQUIREMENTS FOR EACH FACILITY**

SWM Facility #	Maintenance Requirements
80067	<ul style="list-style-type: none"> <li>• Repair and/or replace manhole frame on riser</li> <li>• Resolve pretreatment issues</li> <li>• Stabilize erosion at the BMP inflows</li> <li>• Replace riprap where needed within BMP and at outfall</li> <li>• Remove debris from BMP area</li> </ul>
80068	<ul style="list-style-type: none"> <li>• Repair banks and slopes on the spillway embankment</li> <li>• Replace cover and seed bare spots on embankment</li> <li>• Remove trash from BMP area</li> <li>• Cut and remove overgrown vegetation from within BMP</li> </ul>
80069	<ul style="list-style-type: none"> <li>• Repair and/or replace manhole frame on riser</li> <li>• Remove trash from BMP area</li> <li>• Cut and remove overgrown vegetation from within BMP</li> <li>• Stabilize erosion at the BMP inflows, within BMP impoundment area, and in downstream channel at the outfall</li> <li>• Correct excessive ponding</li> </ul>
80070	<ul style="list-style-type: none"> <li>• Remove sediment from inflows into BMP</li> <li>• Stabilize erosion at the BMP inflows, within BMP impoundment area, and in downstream channel at the outfall</li> <li>• Replace cover and seed bare spots on embankment</li> <li>• Stabilize erosion on upstream and downstream embankments</li> </ul>
80071	<ul style="list-style-type: none"> <li>• Reset pipe to convey water at principle spillway</li> <li>• Remove trash from BMP area</li> <li>• Cut and remove overgrown vegetation from within BMP</li> <li>• Stabilize erosion at the BMP inflows, within BMP impoundment area, and in downstream channel at the outfall</li> <li>• Stabilize erosion on upstream and downstream embankments</li> <li>• Remove debris and sediment from low flow orifice</li> </ul>

**TABLE 3.06-4**  
**MAINTENANCE REQUIREMENTS FOR EACH FACILITY**

SWM Facility #	Maintenance Requirements
80073	<ul style="list-style-type: none"> <li>• Mow grass and cut/remove vegetation from embankment</li> <li>• Remove trash from BMP area</li> <li>• Stabilize erosion within BMP</li> </ul>
80074	<ul style="list-style-type: none"> <li>• Reset pipe to convey water at principle spillway</li> <li>• Mow grass and cut/remove overgrown vegetation within BMP</li> <li>• Stabilize erosion at BMP inflows</li> </ul>
80075	<ul style="list-style-type: none"> <li>• Mow grass and cut/remove vegetation from embankment</li> <li>• Stabilize erosion within BMP</li> <li>• Remove sediment from BMP impoundment area</li> </ul>
80076	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80079	<ul style="list-style-type: none"> <li>• Cut and remove trees from BMP area</li> </ul>
80080	<ul style="list-style-type: none"> <li>• Repair banks and slopes on the spillway embankment</li> <li>• Replace cover and seed bare spots on embankment</li> <li>• Stabilize erosion within BMP</li> <li>• Remove sediment from BMP impoundment area</li> </ul>
80081	<ul style="list-style-type: none"> <li>• Stabilize erosion within BMP</li> <li>• Remove sediment from BMP impoundment area</li> </ul>
80082	<ul style="list-style-type: none"> <li>• Correct excessive ponding</li> </ul>
80084	<ul style="list-style-type: none"> <li>• Correct excessive ponding</li> </ul>
80085	<ul style="list-style-type: none"> <li>• Cut and remove overgrown vegetation from within BMP</li> </ul>
80086	<ul style="list-style-type: none"> <li>• Reset pipe to convey water at principle spillway</li> <li>• Correct excessive ponding</li> </ul>
80087	<ul style="list-style-type: none"> <li>• Cut and remove overgrown vegetation and trees from within BMP impoundment area</li> <li>• Remove debris from BMP area</li> <li>• Stabilize erosion within BMP</li> </ul>
80088	<ul style="list-style-type: none"> <li>• Cut and remove overgrown vegetation and trees from within BMP impoundment area</li> <li>• Remove debris from BMP area</li> <li>• Stabilize erosion within BMP</li> </ul>
80089	<ul style="list-style-type: none"> <li>• Stabilize erosion within BMP</li> <li>• Remove dead trees within BMP area</li> </ul>

**TABLE 3.06-4**  
**MAINTENANCE REQUIREMENTS FOR EACH FACILITY**

SWM Facility #	Maintenance Requirements
80090	<ul style="list-style-type: none"> <li>• Stabilize erosion within BMP</li> <li>• Remove dead trees within BMP area</li> <li>• Repair and/or replace manhole frame on riser</li> <li>• Correct excessive ponding by removing blockages and ensuring proper conveyance through the facility</li> </ul>
80091	<ul style="list-style-type: none"> <li>• Stabilize erosion within BMP</li> <li>• Remove trash from BMP area</li> <li>• Remove cattail from impoundment area</li> </ul>
80092	<ul style="list-style-type: none"> <li>• Stabilize erosion within BMP</li> <li>• Remove trash from BMP area</li> <li>• Remove cattail from impoundment area</li> <li>• Cut and remove overgrown vegetation from within BMP impoundment area</li> </ul>
80093	<ul style="list-style-type: none"> <li>• Reset pipe to convey water at principle spillway</li> <li>• Replace riprap where needed within BMP and at outfall</li> </ul>
80096	<ul style="list-style-type: none"> <li>• Reset pipe to convey water at principle spillway</li> </ul>
80097	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80098	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80099	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80100	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80101	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80102	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80103	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80104	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80105	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80106	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80107	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80108	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80109	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80110	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>
80111	<ul style="list-style-type: none"> <li>• No maintenance required</li> </ul>

### **3.06.11 Retrofit Design and Permitting (Stage III)**

The Design-BUILDER shall conduct investigations, including geotechnical analyses, survey, environmental assessments, etc., and prepare designs for the retrofit of ten (10) failing facilities.

All facilities consist of infiltration devices, including two (2) infiltration basins and eight (8) infiltration trenches. As such, the proposal of an infiltration BMP type will not be accepted for the retrofit of these facilities. The retrofit designs will conform to all current standards to the maximum extent possible. If certain criteria cannot be met, then the Design-Build Team shall obtain approval from the Highway Hydraulics Division and a waiver from the Maryland Department of the Environment. The facilities requiring retrofit are listed below:

**TABLE 3.06-5**  
**CHARLES COUNTY STORMWATER MANAGEMENT RETROFIT SITES**

SWM Facility #	Facility Type	Performance Rating	SHA Response Rating
080014	Infiltration Trench	D	IV
080039	Infiltration Trench	D	IV
080040	Infiltration Trench	D	IV
080041	Infiltration Trench	D	IV
080042	Infiltration Trench	D	IV
080043	Infiltration Trench	D	IV
080044	Infiltration Trench	D	IV
080051	Infiltration Basin	D	IV
080083	Infiltration Trench	D	IV
080095	Infiltration Basin	D	IV

The design and construction of the retrofits shall be performed in accordance with all applicable criteria and standards cited herein and in accordance with the Performance Specifications.

The Design-Build Team shall be responsible for coordinating all reviews and approval submissions with the appropriate review entities.

A concept plan shall be submitted to Highway Hydraulics Division for each of the proposed retrofits, and shall include preliminary grading, details, preliminary erosion and sediment control, access, and right of way. A Concept Plan Report has been provided that illustrates a retrofit alternative for each facility. The Design-Build Team shall verify all information as necessary to complete the design, including drainage areas, unified stormwater sizing volumes, and right of way boundaries. The Design-Build Team shall not rely solely on the Concept Report computations or on the as-built drawings provided.

#### 3.06.11.1 Maryland Department of the Environment (MDE) Review and Approval

A Pre-Permitting meeting must be held once the concept plans have been prepared. This meeting will be scheduled by the Administration upon request by the Design-Build Team and will include the Design-Build H&H engineer, Design-Build Construction manager, MDE reviewer and Administration Highway Hydraulics Division manager. The purpose of the meeting is to preview and discuss the SWM and erosion and sediment control concepts developed by the Design-Build Team, submission schedules proposed by the

Design-Build Team, permitting timeframes, submission requirements and the Administration's quality expectations.

Submissions for MDE and the Administration approval shall be delivered to both agencies concurrently. The SWM submission to the Administration shall be submitted directly to the Highway Hydraulics Division. The Administration shall be copied on all correspondence delivered to MDE at the same time it is delivered to MDE including comment letters, phone conversation transcripts, transmittals, reports, plans, revisions to plans and report, computations, and point-by-point response letters.

The Concept SWM report proposes certain types of SWM facilities. Other types of facilities may be used, but they shall meet all requirements of the 2000 Maryland Stormwater Design Manual and subsequent changes, and be approved by the Administration's Highway Hydraulic Division. However, due to the historic failure of infiltration at these sites, infiltration devices shall not be approved. Once approval is gained from the Administration, the Design-Build Team shall acquire all other approvals and necessary permits.

#### 3.06.11.2 Stormwater Management (SWM) Visual and Environmental Quality and Safety Review and Approval

Visual and environmental quality and safety shall be considered and provided for in the final SWM facility designs. This should be accomplished with the input of the Design-Build Team's Landscape Architect.

The Design-Build Team shall coordinate visual and environmental quality and safety review for SWM facilities with the Administration, Highway Hydraulics Division. This review shall consist of a meeting to discuss the SWM facilities as they relate to visual and environmental quality and safety, and review and approval of follow-up plans.

Comments and revisions offered by the Administration shall be incorporated into the SWM facility design. Final approval from the Administration, Highway Hydraulics Division, shall be obtained before finalizing the SWM facility plans.

#### 3.06.11.3 Stormwater Management (SWM) As-Built Certifications

The Design-Build Team shall provide a SWM As-Built (AB) Inspector to inspect the various stages of construction for each SWM facility and provide documentation to the Administration that certifies that the SWM facilities have been constructed as specified in the Contract Documents, including certification that the constructed SWM facilities provide the functionality as designed. The AB Inspector shall report directly to a licensed Professional Engineer or Land Surveyor in the State of Maryland with experience in SWM design and construction. The as-built drawings must be certified by a Professional Engineer or Land Surveyor in the State of Maryland.

The Contractor shall submit the completed As-Built Certification Package to:

Highway Hydraulics Division Chief, Mail Stop C-201  
Maryland State Highway Administration  
707 North Calvert Street



Baltimore, Maryland 21202

**3.06.12 Geotechnical Engineering**

The Design-Builder shall conduct supplemental subsurface explorations, analyses, design and construction for all geotechnical components of the Project in accordance with all applicable criteria and standards cited herein and in accordance with this Geotechnical Performance Specification.

**3.06.13 Utility Relocations and Permits**

The Design-Build Team shall be responsible for coordination of all activities during design and construction with regard to utilities and permits. See the Section 875 - Utility Statement contained elsewhere in this RFP for the appropriate contacts for each Utility Company.

**3.06.14 Erosion and Sediment Control (ESC) Design and Approvals**

Approval for ESC has not been obtained from MDE. The Design-Build Team shall be responsible for producing a completed set of ESC plans for each of the retrofit projects. These plans shall be submitted to MDE for approval with final approval being issued by the Administration's Highway Hydraulics Division. The Design-Build Team shall be responsible for addressing any comments that MDE and the Administration supplies.

A Pre-Permitting meeting shall be scheduled as discussed under SWM Design and Approvals section above. Submittals for ESC approval shall be delivered concurrently to MDE and the Administration according to the review process for SWM approval described above under SWM Design and Approvals.

The Administration will not provide any ESC design. The Design-Build team will be responsible for 100% of design and for obtaining approvals for the erosion and sediment control plans from all appropriate agencies such as MDE.

Once the MDE review process is complete, the Design-Build Team shall obtain final approval from the Administration.

If the total earth disturbance is one acre or more, the Design-Build Team must submit to the Administration's Highway Hydraulic Division a complete Notice of Intent (NOI) form in accordance with the NPDES General Permit for Construction Activities for each project over one acre. No disturbance is allowed until this form is accepted by MDE. The Design-Build Team shall be responsible for any fines, shutdowns, or fees associated with non-compliance, at no cost to the Administration.

**3.06.15 Engineering Studies**

The Design-Build Team shall be responsible for engineering studies as required to determine solutions to any unforeseen situations that may be discovered during this project, and submission of these studies to the Administration for approval. These studies shall be prepared as per the SHA Consultant Services Specifications, Volume II.

**3.06.16 Coordination with the Administration****3.06.16.1 Design Submission Requirements****3.06.16.1.1 Review Timeframes**

The Design-Build Team must notify the Administration 14 days prior to the date of all intended submissions. The Administration will review the plan submittals and return comments within 21 calendar days of receipt of the plans, beginning on the day after receipt of the plans. The Design-Build Team must incorporate their design submittal schedule, the Administration's review time frame and lead time for materials in their project Critical Path Method Schedule.

The intent is to provide some flexibility for the Design-Build Team in the schedule for design and construction such that the construction work may begin on one or more retrofits before all of the facility designs have been reviewed and approved for the entire project.

For the protection of both the Design-Build Team and the Administration, all submittals prepared by the Design-Build Team shall be dated and initialed by the Design-Build Team as a file copy submission.

Once the plans are "approved" or "approved as noted", the Design-Build Team shall submit the title sheet that is signed and sealed by the Design-Build Team's Engineer to the SHA Highway Design Project Manager. The title sheet shall be returned to the Design-Build Team with signatures from the appropriate officials of the Administration. The Design-Build Team shall then submit 5 sets of plans and specifications to the Administration for the SHA internal distribution. One set of Reproducibles shall also be submitted. The Design-Build Team is responsible for any external distributions associated with the Design-Build Teams personnel, subcontractors, sub consultants, suppliers etc.

The Design-Build Team shall not proceed with the final retrofit construction of a particular facility until:

- a. All Final Plans and Specifications comments have been addressed to the satisfaction of the Administration for that facility.
- b. All required permits for that work have been received.
- c. Final Plans and Specifications approval is received in writing from the Administration for that facility.
- d. A title sheet is signed and sealed by the Design-Build Team's Engineer and appropriate officials of the Administration.

Final contract plans submission shall meet file storage requirements and will be considered the record plan set for seals and signature. Electronic files shall be for documentation purposes only. All revisions to approved plans and as-built revisions shall be made on both the hard copy originals and in the electronic files.

**3.06.17 Additional Services**

The Design-Build Team shall be responsible for all necessary field surveys required for the retrofits, which shall conform to Maryland Grid System NAD 83/91 and NAVD 88.

**3.06.18 Environmental Permits**

The Design-Build Team shall procure all other approvals, permits and licenses, pay all charges, fees and taxes and give notices necessary or appropriate for the performance of the Work. This includes approvals for on-or off-site staging, stockpiling areas, disposal sites and borrow pits.

If the Design-Build team determines that wetlands, buffers, or floodplains will be impacted, the Design-Build team shall be responsible for obtaining permits from MDE and ACOE. The Design-Build Team shall also be responsible for designing, implementing, and monitoring mitigation, if required.

**3.06.19 Right of Way Needs Identification**

The Design-Build Team shall identify right of way needs as part of the Concept development. The Design-Build Team shall provide the Administration the right of way needs for the SWM facilities and outfalls for which right of way has not been established. It is the responsibility of the Design-Build Team to provide boundary survey and right of way plats required.

**3.06.20 Retrofit Construction (Stage IV)**

Upon completion of the design and permitting (Stage III) for each retrofit facility, the Design-Build Team shall be responsible for performing retrofit construction as provided for in the design plans and this RFP.

**3.06.21 Phase V Services**

Phase V services consist of partnering during design and construction, checking shop drawings, redesign under construction, revisions, and certifying the as-built plans.

The Design-Build Team shall provide all services and perform tasks described in compliance with the policies of Administration as stipulated throughout this RFP and SHA Consultant Services Specifications, Volume II.

**3.06.22 Construction Personnel Identified in Proposal**

The Design-Build Team, all key staff and construction-related key personnel, and all other Major Participants identified in the proposal shall be utilized in the same manner and to the same extent set forth in the proposal for the duration of the project. **Changes regarding the Design-Build Team shall not be allowed. Changes regarding key staff, construction-related key personnel and all other Major Participants require prior written approval by the Administration.** Requests for such changes must be submitted to the Administration's Project Manager in writing and replacement personnel must have equal or better qualifications than the key personnel identified in the technical proposal. The format for replacement staff must be the same format as required for the technical proposal including the requirements thereof. The Design-Build Team acknowledges that any such changes are for the convenience of the Design-Build Team alone and shall not increase the Design-Build Team's Price or change the project

schedule. The Administration will approve such requests only if it determines that such change will not detrimentally affect the long term quality, durability, maintainability, or timeliness of the Work.

**3.06.23 Conformance with Contract and Proposal**

All construction, construction-related work, and all other work must conform to the Contract, to the Technical Proposal submitted by the Design-Build Team and to the construction plans prepared by the Design-Build Team.

**3.06.24 Check Shop Drawings**

The Design-Build Team shall check all shop drawings for hydraulic structures, non-standard drainage structures and all other designed structures prior to manufacture and/or placement of such structures. The Design-Build Team shall check all such shop drawings and stamp their approval prior to sending approved shop drawings to the Administration. The approved shop drawings for hydraulic structures, non-standard drainage structures (including stormwater management) along with the necessary structural computations shall be submitted to: The Division Chief, Highway Hydraulics Division, C-201, Maryland State Highway Administration, 707 North Calvert Street, Baltimore, MD 21202.

The Design-Build Team shall correct any errors or omissions found by the Administration during QA-QC of such approved shop drawings at no additional cost to the Administration.

The Design-Build Team shall challenge all the work of the detailer, approving that, which is correct, or most appropriate and red lining and commenting on incorrect or less appropriate details or design. The importance of this approach is emphasized since inferior detailed design could negate the benefits of quality general design. Each shop drawing shall bear the official stamp of the Design-Build Engineer, attesting to their review and approval by the Design-Build Engineer. This work is to be done under the supervision of and shall be the responsibility of a Maryland Registered Professional Engineer.

**3.06.25 Conformance with Approved Plans and Specifications****3.06.25.1 Construction Plans and Project Specifications**

All work shall be done in conformance with the details and dimensions shown on the approved Final Plans and Specifications, and shall meet the requirements in the specifications/special provisions approved as a part of the Final Plans and Specifications submission and portions thereof.

**3.06.25.2 Plan Revisions after Approval of Final Plans and Specifications**

All plan revisions made after Final Plans and Specifications approval shall have approval of the Administration prior to implementation.

**3.06.25.2.1 Revisions**

Redesigns after Final Plans and Specifications approval shall be superimposed on the original project plans in green. Old design details, dimensions and notes shall not be erased, but X'd out in green. The date that the revision was made shall be indicated in the title block of each revised plan sheet. Revisions require prior approval of the Division that is affected by the change and finally the Administration's Director, Office of Highway Development.

**3.06.25.2.2 As-Built Drawings**

Field changes/variances from the details and dimensions shown on the plans shall be superimposed on the approved set of drawings in green. Old details, dimensions and notes shall not be erased, but X'd out in green. Each revision must be identified with a Hexagon with the letter A in the center. This symbol is available in MD SHA's Cad Standards. The date that the revision was made shall be indicated in the title block of each revised plan sheet. The As-Built Plans shall reflect any field revision made during construction.

The Design-Build Team shall submit one comprehensive set of As-Built plans at the completion of the project that are signed, certified and sealed by the Engineer, including As-Built field inspection checklists. The comprehensive set of As-Built plans will include an index sheet which describes each phase of the plan submittal if there are multiple submittals.

**3.06.25.2.3 Computer Files**

The Design-Build Team shall also submit Black and White images, at 200 DPI-TIF and PDF files, of the As-Built Plans on CD ROM. The As-Built plans shall be scanned starting with the Title Sheet. The file names will be the Construction Contract Number, followed by a dot (.), followed by a sequential number beginning with 1001. The sequential number must correspond with the plan sheet numbering. This number is followed by another (.) and then the TIF and PDF extension. Example: WO7675170.1001.tif. All scanned TIF and PDF images will be scanned in such a way that they do not appear upside down upon opening. The cover of the CD ROM shall be labeled with the SHA contract number, date, route number, and project description.

**3.06.25.2.4 Permits**

The Design-Build Team shall obtain approvals from the appropriate regulatory agencies for any changes in design and/or construction activities that affect any permit conditions.

**3.06.26 Coordination with Other Contractors**

The Design-Build Team shall coordinate all design and construction, including that of any subcontractors, with other designers, contractors, the utility companies, governmental agencies,

Administration personnel, and operating personnel concerning site access, establishment and use of temporary facilities, work schedules, and other elements of the specified work, which require interfacing with others.

See the Section 875 - Utility Statement contained elsewhere in this RFP for the appropriate contacts for each Utility Company.

### **3.06.27 Inventory and Inspections (Stage V)**

In the third year of the contract, the Design-Build Team shall provide an inventory and inspection of all Administration-owned facilities within Charles County. In addition to the one-hundred facilities included during the previous inventory, additional facilities that are constructed by the Administration over the duration of this contract shall be included. Prior to conducting the inventory and inspections, the Design-Build Team shall contact the Highway Hydraulics Division to obtain contract documents for the newly-constructed areas.

The inventory and inspections shall conform to the *Maryland State Highway Administration Storm Water NPDES Program Standard Procedures Manual*, included with this RFP.

All personnel performing the inventory and inspections shall attend a 2-day workshop provided by the Administration. This workshop will be scheduled early in year three of the project. The workshop will discuss the *Standard Procedures Manual* and will include sample field inspections of stormwater management facilities.

The inventory shall include a GPS location of stormwater structures and the facility boundary, collecting the required data per the manual, delineating/verifying the drainage area and updating the Administration's geodatabase with the collected information.

The BMP inspections shall be performed on all Administration-owned facilities in Charles County. The manual provides the rating criteria for each component of the BMP. The inspector shall work directly with the Design-Build H&H engineer to identify maintenance needs for the facilities and to ensure they are addressed. **All maintenance items should be addressed for all of the one hundred facilities included in this contract.** There shall be no outstanding maintenance action items for these facilities at the end of the Project. The inspection shall result in a new performance rating for each facility, which shall be "A" or "B" for the one hundred facilities included in this RFP. Maintenance shall be provided for any facility earning a rating under "B", such that the final performance rating is raised.

**The inspections shall be audited by the Administration to ensure accuracy. If a discrepancy exists between the Design-Build Team's performance rating and the Administration's audited performance rating, the Administration's rating shall apply.**

### **TC 3.07 ADMINISTRATION SERVICES**

The Administration will provide the following services:

**3.07.01 General Administration Services**

- Provide CADD standards, engineering standards, design criteria, as-built plans, existing R/W plats and prints of other design projects for use as examples or guides.
- Provide erosion and sediment control standard sheets, Maintenance of Traffic (MOT) standard plates, etc.
- Schedule and coordinate meetings for this project.
- Provide review of all redesign and revisions.
- Review and approve design concepts, right of way needs, plans, and contract drawings.
- Acquire the right of way for Storm Water Management (SWM) Facilities and SWM outfalls as identified on the Design-Build Team's approved Concept Plans.

**3.07.02 Conduct Pre-Construction Conference**

The Administration will conduct the conference and take minutes. Representation at the conference shall include:

**3.07.02.1 Preconstruction Conference Attendees**

- A responsible officer of the Design-Build Team;
- The Project Manager;
- The SHA Construction Project Engineer;
- A responsible officer of any major subcontractors.
- SHA Highway Hydraulics Division representative

**3.07.02.2 Pre-Construction Conference Topics**

The Design-Build Team should be prepared to discuss the following issues at the conference (at a minimum):

- Designation of responsible personnel;
- Design Quality Control Plan;
- Correspondence/communication;
- Distribution of contract documents;

- Approval of subcontractors;
- Progress schedule (design and construction);
- Critical work sequencing;
- Permits and licenses;
- Submission schedule;
- Submittal of Shop Drawings, project data and samples;
- Itemized schedule listing dates by which other submissions will be forwarded to the Administration;
- Major equipment, deliveries and priorities;
- Construction constraints;
- Training;
- Procedures for maintaining Record Documents;
- Material submittals and approvals;
- Processing of field decisions and change orders;
- Close-out procedures; and
- Safety.

### **3.07.03 Conduct Progress Meetings**

The Administration will conduct progress meetings on a regular basis, as scheduled at the project initiation meeting and pre-construction conference. The Design-Build Team shall prepare all meeting minutes and distribute them to attendees and team members for review and comment. Additional progress meetings may be necessary at the discretion of the Administration to maintain coordination of design and construction activities. Representatives at the meetings shall be qualified and authorized to act on behalf of the entity each represents.

#### **3.07.03.1 Progress Meeting Attendees**

- The Design-Build Manager, Design-Build Project Manager and associates as needed,
- The Administration's Project Engineers, Construction, Design and associates as needed,
- Subcontractors as appropriate to the agenda,



**3.07.03.2 Progress Meeting Topics**

The meetings will serve as a forum to establish and maintain close coordination of work activities, resolve problem issues and expedite construction operations. Schedules, change orders, work activities, DQCP reviews, and other issues will also be addressed.

**TC 3.08 DELIVERABLES**

Deliverables will be produced in both the design and construction phases. They include construction documents, reports, design exceptions and property owner information.

**3.08.01 Maintenance Work Orders**

Maintenance work orders shall be submitted to the Highway Hydraulics Division for all proposed maintenance activities, with the exception of mowing activities. The work orders should consist of 8 ½" x 11" sheets, with 11"x17" sheets being acceptable for graphics. At a minimum, the work orders shall include the following:

- Cover Sheet, Stating BMP Type and Number
- Vicinity Map
- Summary of Maintenance Activities
- Photographs to Clarify Maintenance Needs
- Sketches to Indicate Limit and Type of Work
- Marked up current as-built plans
- Details (If Applicable)
- Summary of Disturbed Area, Cut, and Fill
- List of materials to be used meeting SHA Specifications

**3.08.02 Retrofit Plans & SWM Reports**

At a minimum, the following separate plan sheets shall be produced for this project.

- Title Sheet
- Stormwater Management Plans and Details
- Erosion and Sediment Control Plans and Details
- Landscape /SWM Planting Plans

**3.08.02.1 General Requirements**

The Design-Build Team shall deliver, upon request and at no additional cost, hard copies of maps, plans and drawings as well as electronic copies of all computer files. This includes Microstation files used to develop the design and drafting of this project. These files must be logically indexed and labeled to enable Administration personnel to use at any time.

**3.08.02.2 Refinements to Contract Documents**

The Design-Build Team shall develop refinements to the contract documents within the parameters of the proposed cost that better achieve the project goals. This includes Concept and Final Design plans, Final SWM Report, Drainage Calculations and Contract Documents based on refinements and revisions to the Administration-furnished Contract Documents. The Design-Build Team may modify the Microstation V8 files provided by the Administration, or start from new, blank files. In some cases, the Design-Build Team will have to start from new, blank files and redraft everything required for the permit.

**3.08.02.3 Contract Plans and Specifications**

The Design-Build Team shall provide contract plans and any required specifications, in accordance with "SHA Consultant Services Specifications, Volume II" and this RFP. The Design-Build Team will develop specifications for construction that identify the details of the proposed work. The intent is that the work will be done in accordance with the Standard Specifications, project specific Special Provisions, the "standard" Special Provisions, and the Special Provisions Inserts.

The Design-Build Team shall provide the Administration with sufficient data to answer property owners' and other requests for information concerning the project's effects, status, etc.

**3.08.02.4 Drafting and CADD Standards**

The Design-Build Team shall utilize SHA supplied Microstation files, including data collector survey and photogrammetry in their design and drafting. The Design-Build Team shall utilize the Microstation drafting software packages Version V8 or later. All of the design and drafting will utilize all Administration CADD Standards including but not limited to feature tables, file-naming standards, parameter files, font libraries, cell libraries and color tables.

**3.08.03 Reports**

The Design-Build Team shall perform engineering computations and/or analysis and maintain all backup data. This data must be available to the Administration at all times; and clear, legible copies shall be furnished to the Administration upon request. Stormwater Management reports, drainage reports, geotechnical reports and field inspection reports, computations, and maps shall be submitted to the Administration for review and/or approval and placement in permanent files. These computations shall be for the total project and in accordance with Administration

procedures. Design Exceptions shall be documented in report form and submitted to the Administration.

### 3.08.03.1 Stormwater Management (SWM) Reports

Upon completion of the project, the Design-Build Team shall submit two (2) copies of approved, final SWM Reports to the Administration. During the review and approval process, the report can be submitted in phases.

#### 3.08.03.1.1 SWM Reports Format

- The reports and accompanying mapping shall be compiled according to the SHA HHD SWM Design Report Standard Format (included in this package).
- The reports shall be written in a clear, well organized, and concise manner with all pages numbered and dated.
- The reports shall be placed in an 8½ by 11 inch, 3-hole binder that allows for insertion of revisions and removal of old data.
- Revisions to reports as required. The date of the revision shall be placed on all pages and pages to be added, replaced or removed shall be designated. Revisions shall be 3-hole punched for easy placement in the reports.
- The final approved reports, including all mapping and exhibits, shall be converted to PDF formatted file(s). The electronic file(s) shall be delivered to the Administration for their records.

#### 3.08.03.1.2 SWM Report Contents

The SWM reports shall contain the following:

- A thorough discussion explaining the extent of improvements at each outfall and the proposed quantitative and qualitative control methods of SWM, including reasons why other methods were not selected.
- Reference to the original design and Water Quality Credit passed on the previously approved plans and SWM report
- An explanation of hydrologic/hydraulic analysis methodologies used. Final supporting computations, maps, schematics, cross-sections, details and computer outputs shall be included for each outfall location.
- Outfall stability analysis, including photographs of each outfall and receiving channel.

- Computations for riprap sizing and outlet protection.
- Maps and schematics clearly showing the location of subareas, structures, existing land use, time of concentration paths, soil types and SWM facilities. Maps shall be included in pockets within the reports.
- Computer printout sheets in 8½ inch x 11 inch format. These sheets shall be clearly labeled for cross-reference to the supporting data and points of analysis.
- MDE Pond Summary Sheets.
- MDE SWM Waiver Applications as needed. These shall be submitted to the Administration, Highway Hydraulics Division, for signature.
- Water Quality Summary Sheet

#### 3.08.03.2 Erosion and Sediment Control (ESC) Reports

The ESC computations for the ESC designs shall be included in the SWM reports.

#### 3.08.03.3 Final Geotechnical Reports

The Design-Builder shall prepare Final Geotechnical Reports for individual or groups of facilities. The Final Geotechnical Reports shall include the following, at a minimum:

- A) Locations and results of borings, rock coring, geophysical testing and other in-situ testing;
- B) A detailed description of geological and subsurface conditions for each site (including a description of site stratigraphy);
- C) Field investigation procedures;
- D) A description of groundwater conditions; groundwater elevation
- E) Results of laboratory tests; infiltration rates
- F) Values assigned to all applicable soil parameters for design;
- G) All pertinent data and complete discussions of all geotechnical analyses and design;
- H) All relevant design calculations and computer program results checked and initialed by a Professional Engineer licensed in the State of Maryland; and
- I) Conclusions and recommendations for foundation types for structures, embankments, cut slopes, retaining walls, ground improvement, requirements for backfill materials.

#### 3.08.04 Geodatabase

The Administration shall provide the Design-Build Team the current version of the existing geodatabase for this project. The Design-Build Team shall perform an inventory of all Administration-owned facilities in Charles County, and update the Administration's geodatabase. Detailed descriptions of components of the geodatabase are included in the

*Maryland State Highway Administration Storm Water NPDES Program Standard Procedures Manual*, included with this RFP. The SHA storm drain infrastructure geodatabase stores all relevant data for SHA owned and maintained storm drain structures and conveyance, Best Management Practices (BMPs), and inspections of these infrastructures. There are six feature classes within the geodatabase that store the spatial reference and standard data for storm drain infrastructure. The Design-Build Team shall provide the updated geodatabase to the Administration in digital ArcGIS format. The feature classes are as follows:

- A) STRUCTURE (this is a point feature class that stores information about storm drain structures such as inlets, manholes, end/headwalls, etc.);
- B) CONVEYANCE (this is a line feature class that stores information about storm drain conveyance such as pipes and ditches);
- C) SWMFAC (this is a polygon feature class that stores information about best management practices such as infiltration practices, filtration practices, ponds, etc.);
- D) BMP\_CENTROID (this is a point feature class used to locate BMPs as a point feature);
- E) DRAINAGE\_STRUCTURE (this is a polygon feature class that stores information about the drainage area to major outfalls); and
- F) DRAINAGE\_SWMFACILITY (this is a polygon feature class that stores information about the drainage area to BMPs).

Attribute information for these assets shall be stored in associated tables provided in the geodatabase. These associated tables are linked to the feature classes via Relationship Classes that link fields from different tables to create a join of data. Some fields in the different feature classes and tables are assigned domain values which are also stored in the geodatabase.

There are also associated tables within the geodatabase that detail individual assets. For example, the INLET table stores information about individual inlets such as type, length, and material. Other associated tables are MANHOLE\_CONN, END\_HEADWALL, SWMRISER, DITCH, PIPES, WEIRS, and PUMPSTN (pump stations).

The inventory and inspection information for BMPs shall also be stored in geodatabase tables. There is an inspection table for BMPs (BMP\_INSPECTION) and for major outfalls (INSPECTION and FLOW\_CHAR). Pipe inspection data is recorded in 4 tables: PIPE\_INSPECTION, P\_INSP\_PHOTO, P\_INSP\_REC, P\_INSP\_SUBRATINGS.

Contract information, asset owner information, metadata, photos taken during inspections, and BMP scanned contract sheets shall also be stored as attribute tables in the geodatabase.

**TC 3.09 ROUTINE MAINTENANCE PERFORMANCE SPECIFICATION****3.09.01 General**

Routine maintenance consists of activities designed to ensure that conditions in the facility do not deteriorate such that more extensive maintenance or reconstruction is required, and that the performance of the facility is not compromised. All facilities require routine maintenance. Routine maintenance covers the entire facility, including access roads, inflow pipes and swales, spillways, embankments, outfalls, outfall channels within the SHA R/W, landscaping, the facility interior, and any other components of the stormwater facility. -

**3.09.02 Standards**

Perform the maintenance in accordance with the relevant requirements of the Standards, which are listed by priority in Table 3.09-1, unless otherwise stipulated in this specification. Standards specifically cited in the body of this specification establish requirements that shall have precedence over all others. Should the requirements in any standard conflict with those in another, the standard listed with the higher priority shall govern. The Design-Builder shall obtain clarification for any unresolved or perceived ambiguity prior to proceeding with design or construction.

Use the most current version of each listed standard as of the publication date of this RFP.

**TABLE 3.09-1  
STANDARDS FOR ROUTINE MAINTENANCE**

Priority	Author or Agency	Title
1	SHA	Maryland Department of Transportation, publications entitled "Highway Drainage Manual" dated December 1981 or as amended herein and any revisions thereof.
2	MDE	Regulations COMAR 26.17.02, "Stormwater Management"
3	MDE	"Stormwater Management Guidelines for State and Federal Projects"
4	MDE	"2000 Maryland Stormwater Design Manual", Volumes I and II.

**3.09.03 Mowing**

Mowing of all maintained grassed areas shall be done twice per year. Mowing activities shall include the interior of the facility, access roads, inflow swales, embankments, a 15' buffer from the toe of embankments, and the bottom of dry facilities, where applicable. Grass shall be cut to a length of two inches.

**3.09.04 Construction**

Routine maintenance activities should be performed annually, with the exception of mowing as described above. The routine maintenance requirements provided in Section 3.06.09 are the minimum requirements; additional maintenance items may be necessary for a particular facility to ensure the facility is functioning properly.

All construction shall comply with Section TC 3.16 and the Maintenance of Traffic (MOT), Haul Routes and Access During Construction Performance Specifications.

All materials shall comply with requirements provided in the Landscaping, Geotechnical, and Drainage Performance Specifications.

**3.09.05 Submittals**

No submittals or approvals are required for mowing activities.

All other routine maintenance activities shall require approval by the SHA Highway Hydraulics Division. A work order shall be prepared by the Project Design Manager and submitted to the Highway Hydraulics Division for approval at least 14 calendar days prior to the proposed maintenance date. The work order shall, at a minimum, include the following information:

- BMP number, type, and location
- Maintenance to be performed
- Source and type of materials, if applicable
- Equipment to be utilized
- Date maintenance is to occur
- Sketch of the site with activities located

No maintenance (other than mowing, as described above) shall be conducted without an approved work order.

**TC 3.10 REMEDIAL MAINTENANCE PERFORMANCE SPECIFICATION****3.10.01 General**

Remedial maintenance consists of addressing action items identified during facility inspections, and addressing maintenance issues that arise during the duration of the contract. Each facility has been given an SHA Response Rating, identifying whether the maintenance activities identified during the 2007 inspections are considered minor or major. Minor maintenance typically involves activities that can be addressed with a small crew, minimal equipment, without impacting any hydrologic or hydraulic properties of the facility. Major maintenance involves heavier equipment and/or impacts to the hydrologic or hydraulic properties of the facility, such as grading or modifications, repair, or replacement of structures. The SHA Response Ratings for each facility are provided in Section 3.06.08. All maintenance activities

identified in the inspections for either minor or major maintenance must be addressed as part of the remedial maintenance requirement.

The list of maintenance action items for each facility is provided in Section 3.06.10. The Design-Build Team is responsible for addressing additional maintenance items as necessary to ensure the facilities are functioning as designed.

### 3.10.02 Standards

Perform the maintenance in accordance with the relevant requirements of the Standards, which are listed by priority in Table 3.10-1, unless otherwise stipulated in this specification. Standards specifically cited in the body of this specification establish requirements that shall have precedence over all others. Should the requirements in any standard conflict with those in another, the standard listed with the higher priority shall govern. The Design-Builder shall obtain clarification for any unresolved or perceived ambiguity prior to proceeding with design or construction.

Use the most current version of each listed standard as of the publication date of this RFP.

**TABLE 3.10-1**  
**STANDARDS FOR REMEDIAL MAINTENANCE**

Priority	Author or Agency	Title
1	SHA	Maryland Department of Transportation, publications entitled "Highway Drainage Manual" dated December 1981 or as amended herein and any revisions thereof.
2	MDE	Regulations COMAR 26.17.02, "Stormwater Management"
3	MDE	"Stormwater Management Guidelines for State and Federal Projects"
4	MDE	"2000 Maryland Stormwater Design Manual", Volumes I and II.

### 3.10.03 BMP Performance Ratings

Each facility has been assigned a BMP Performance Rating of A-E. To obtain this rating, each component of the facility is given a rating per the *Best Management Practice Field Inspections and Data Collection Procedures*, and the overall performance rating is developed. A performance rating of "A" or "B" means the facility is functioning as designed. All facilities must be functioning as designed by the end of the contract. It is therefore highly recommended that minor maintenance problems that develop over the course of the contract be addressed before these become more serious problems.



**3.10.04 Construction**

All construction shall comply with Section TC 3.16 and the Maintenance of Traffic (MOT), Haul Routes and Access During Construction Performance Specifications.

All materials shall comply with requirements provided in the Landscaping, Geotechnical, and Drainage Performance Specifications.

**3.10.05 Submittals**

Remedial maintenance activities shall require approval by the SHA Highway Hydraulics Division. A work order shall be prepared by the Project Design Manager and submitted to the Highway Hydraulics Division for approval at least 14 calendar days prior to the proposed maintenance date. The work order shall, at a minimum, include the following information:

- BMP number, type, and location
- Maintenance to be performed
- Source and type of materials, if applicable
- Equipment to be utilized
- Date maintenance is to occur
- Plan sheet(s) illustrating the design, with elevations, profiles, details, and construction notes shown
- Design computations

No maintenance shall be conducted without an approved work order.

Maintenance activities requiring more than 5,000 square feet of disturbance shall require MDE E&S Approvals. See Section 3.14.13 for submittal details.

**TC 3.11 LANDSCAPING DESIGN PERFORMANCE SPECIFICATIONS****3.11.01 General**

The Design-Builder shall design and construct Landscape plantings associated with the Project in accordance with this specification.

**3.11.02 Standards and References****3.11.02.1 Standards**

Design and construct the landscaping in accordance with the relevant requirements of the

Standards listed by priority in Table 3.11-1, unless otherwise stipulated in this specification. Standards specifically cited in the body of this specification establish requirements that shall have precedence over all others. Should the requirements in any Standard below conflict with those in another, the Standard listed with the higher priority shall govern. It is the Design-Builder's responsibility to obtain clarification for any unresolved or perceived ambiguity prior to proceeding with design or construction.

Use the most current version of each listed Standard as of the initial Publication Date of this RFP.

**Table 3.11-1**  
**Standards for Landscape**

Priority	Author or Agency	Title
1	SHA	Standard Specifications for Construction and Materials for items identified as Standard in Attachment A of Part 3- Design Requirements
2	SHA	SHA Stormwater Site Development Criteria, Review Guidelines
3	MDE	2000 Maryland Stormwater Design Manual, Appendix A, Landscaping Guidance for Stormwater BMPs
4	ANSI A300 (Part 1)	Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices
5	ANSI A300 (Part 2)	Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices – Part 2 – Fertilization
6	ANSI A300 (Part 3)	Tree Care Operations – Tree, Shrub and Other Woody Plant - Standard Practices – Part 3 – Tree Support Systems
7	ANSI Z60.1	American Standard for Nursery Stock
8	NRCS	Pond Code 378, Visual Resource Design. Page 9
9	AASHTO	Roadside Design Guide Chapters 4, 5, 6 and 10
10	AASHTO	T88 and T194
11	SHA	Highway Hydraulic Division Stormwater Management Facility Safety Policy for Design
12	COMAR	Nutrient Management Law
13	SHA	Storm Water Management Safety Policy

#### 3.11.02.2 References

Use the references listed in Table 3.11-2 as supplementary guidelines for the design and construction of the landscaping. These publications have no established order of precedence.

**Table 3.11-2**  
**References for Landscape**

Author or Agency	Title
ANSI Z133.1	Safety Requirements for Pruning, Trimming, Repairing, Maintaining, and removing Trees, and for Cutting brush
Hortus Third	A Concise Dictionary of Plants Cultivated in the United States and Canada (L. H. Bailey Hortorium 1976)
AASHTO	A Guide for Transportation Landscape and Environmental Design

### **3.11.03 Lead Landscape Architect and other personnel Requirements**

This Project requires the Design-Builder to have an experienced landscape architectural design team to address, in a collaborative, multi-disciplinary approach, the functional and aesthetic needs of the Project, which includes the preparation and implementation of successful design responses to the commitments established for the Project. The landscape architectural team shall be led by a Maryland Registered Landscape Architect (RLA) with more than 10 years of landscape architectural design experience related to highway corridor design and construction. The lead landscape architect shall be familiar with native vegetation of the Mid-Atlantic Region and be familiar with stormwater management/bioretenention planting.

### **3.11.04 Landscape Requirements**

The Design-Builder shall prepare a Planting Plan as part of the design for each of the retrofits, and where maintenance requires, the reestablishment of vegetation. The landscape planting concept shall be submitted with the retrofit conceptual design or maintenance work order, whichever is applicable. The concept shall be developed to reflect the use of native plants and to revegetate disturbed areas within the Project to the fullest extent possible. The Design-Builder shall be responsible for coordinating the landscaping with all other elements of work to be performed under the Project.

Trees shall be offset a minimum of 30 feet from edge of travel lanes.

The Design-Builder shall furnish all specified seed and seed mixes according to the MDOT/SHA Standard Specifications for Construction and Materials 2001, Section 920.04.

Planting plans shall be compatible with the existing landscape of the adjacent land uses and surroundings. Plant selections at SWM areas shall be as appropriate for each facility type.

The goal of planting at SWM facilities is to provide maximum environmental value (water quality, wildlife, bio-diversity) while providing low maintenance, native landscapes within curvilinear-shaped SWM facilities. Fall color shall be maximized in the choice of native trees and shrubs, and the winter structure shall be maximized in the choice of native grasses and forbs.

See the Drainage Performance Specification for engineering requirements at SWM facilities.

The approved plant species, minimum acceptable sizes, and minimum spacing are listed below. Requests for substitution of other species shall be submitted in writing to the Administration.

#### 3.11.04.1 Stormwater Management Minimum Planting Requirements

Planting configurations for native SWM landscape schemes shall not be uniform, static patterns such as grids or lines. Instead, the planting configurations shall mimic natural colonization in natural plant communities. A relaxed sense of order shall be provided while avoiding the appearance of plants randomly dotted about the terrain. The arrangement of species in planting zones that require uniform cover of plant material (e.g., emergent, floating aquatic or shallow marsh areas) shall be arranged in homogenous groupings that intermingle with groupings of other species.

The arrangement of species in plant zones that require loose arrangements of individual plants (e.g., perimeter shade zone) shall be placed in naturalistic drifts of same species intermingled with individual species providing ornamental interest.

#### 3.11.04.2 Naturalistic Drifts of Trees and Shrubs

The Design shall adhere to the following list of minimum planting requirements. Lists of approved species for each facility type and planting zone are provided in the next section.

The table below for SWM ponds and wetlands, Table 3.11-3, lists all the possible planting zones for these types of SWM facilities. The design shall provide planting according to the zones required by the particular facility being designed. Ponds shall have aquatic benches that are emergent & floating aquatic zones; water depths greater than 48 inches that are submerged aquatic zones and storm elevations for up to the 10-year storm that are frequently fluctuating zones. Wetlands shall have micro-pools or deep pools that are submerged aquatic zones, shallow wetland areas that are emergent & floating aquatic zones and water fluctuations up to the 10 year storm that are frequently fluctuating zones. Both SWM ponds and wetlands are required to have the perimeter shade planting, which covers the emergent zone through the frequently fluctuating zone.

**Table 3.11-3**  
**Minimum Planting Requirements at SWM Ponds**  
**and Wetland Hydrologic Zones**

Min. Quantity/ Placement Considerations	Min. Size/Rate	Root Condition
<b>Submerged Aquatic Zone (48 in. or greater depth permanent water)</b>		
1 plant per 9 cu. ft. of water volume for water depths 48 in. or deeper. Min. 2 species with no one species being greater than 60% of the total plants in this zone	8 in. ht./length	Bare root
<b>Emergent &amp; Floating Aquatic Zone (up to 18 in. depth permanent water)</b>		
24 in. centers max. spacing (2.9 plants per 10 sq. ft.) Min. 3 species shall be provided with no one species being greater than 50% of the total plants in this zone Min. 30% of the species shall be broadleaved or floating leaved	24 in. ht.	Container grown
<b>Frequently Fluctuating Zone (permanent water surface to 10 yr. water storm elev.)</b>		
Live Fascines or Wattles 3 species in each fascine bundle Place parallel to contours Min. one layer of fascines at water's edge Do not use when facility is lined	4 in. diameter by 6 ft. length	Bound bundles
Plug Planting Min. 3 species of plugs shall be provided with no one species being greater than 50% of the total plants in this zone Plugs shall be spaced at max. 24 in. centers (2.9 plants per 10 sq. ft.)		
Seed and Mulch Shall be included to provide permanent stabilization SWM Seed Mix SHA Special Purpose Mix Mulch shall be according to Standard Specification for Construction Materials (SSCM) 2001, Section 705.03.01(f). No straw mulch shall be used at SWM facilities	16 lbs./ac. 10 lbs/ac.	
<b>Perimeter Shade Planting (emergent &amp; floating aquatic zone to 10 yr. water storm elev.)</b>		
Canopy Trees 1 tree if areas is $\leq 4,000$ SF (measured at 10 YR water surface contour line) 3 trees if $(4,000 \text{ SF} < \text{area} \leq 8,000 \text{ SF})$ 5 trees if $(8,000 \text{ SF} < \text{area} \leq 12,000 \text{ SF})$ If area $> 12,000$ SF, add 1 additional tree for each additional 4,000 SF If facility is lined, do not plant trees or woody shrubs within the limits of the liner	3 inch cal.	B & B

**Table 3.11-3**  
**Minimum Planting Requirements at SWM Ponds**  
**and Wetland Hydrologic Zones**

Min. Quantity/ Placement Considerations	Min. Size/Rate	Root Condition
Understory or Flowering Trees 2 if area is $\leq 4,000$ SF, add 1 additional tree for each additional 1,000 SF Multiple stemmed trees shall have a min. of 3 trunks.	2 in. cal.	B & B
Woody Shrubs 5 for every understory or flowering tree required	24 in. ht. or spread	Container Grown
Planting Bed Preparation Mulched beds shall not be used at SWM facilities below the 10 YR water surface elevation. Instead, individual plants shall be installed in plant pits that are not mulched. Areas between planting pits shall be stabilized with seed and mulch		
Seed and Mulch See Frequently Fluctuating Zone seed and mulch requirements.		

**Table 3.11-4**  
**Minimum Planting Requirements for SWM Filtering Practices**

Min. Quantity/ Placement Considerations	Min. Size/Rate	Root Condition
Sod Flow shall be diverted from filter practices until 2 in. ht. of permanent turf stabilization has been established. In cases where flow cannot be diverted, sod shall be applied to the filter surface. Sod shall be applied to all grass weirs except emergency spillways (which shall be established in permanent turf).	Section 708 Section 920 (SSCM 2001)	
Seed and Mulch SWM Seed Mix Special Purpose Mix No straw mulch shall be used at SWM facilities. Mulch shall be in accordance with Section 920.05, SSCM 2001.	8 lbs / ac. 10 lbs / ac.	
Bioretention		
Trees min. 0.76 trees per 100 SF (filter surface area measurement) If the facility has underdrains or is lined, large canopy trees shall not be placed directly in the bioretention facility. Instead, they shall be used adjacent to the facility to provide shade to understory plants. In this case, plant large trees 5 feet away from	2 inch cal.	B&B

**Table 3.11-4**  
**Minimum Planting Requirements for SWM Filtering Practices**

Min. Quantity/ Placement Considerations	Min. Size/Rate	Root Condition
the perimeter of the filter medium/underdrains or liner.		
Shrubs Min. 2.8 shrubs per 100 SF (filter surface area measurement)	24 in. ht. or spread	Container Grown
Herbaceous layer 3 perennials or grasses can be substituted for 1 required shrub No more than 50% of plants shall be perennial or grasses	#1 container	Container Grown
Mulch 3 in. depth shredded hardwood mulch, evenly distributed and raked smooth	Section 920 (SSCM 2001)	

**Table 3.11-5**  
**Minimum Planting Requirements for SWM Open Channels**

Min. Quantity/ Placement Considerations	Min. Size/Rate	Root Condition
Dry Swale		
Seed and Mulch SWM Seed Mix SHA Special Purpose Mix No straw mulch shall be used at SWM facilities. Mulch shall be in accordance with Section 920.05, SSCM 2001.	8 lbs / ac. 10 lbs / ac.	
Wet Swales		
Emergent Species Grasses, rushes or grass-like species. No broadleaf species. 24 in. centers max. spacing (2.9 plants per 10 sq. ft.)	#SP4	Container Grown

#### 3.11.04.3 Suggested Plant Material in Stormwater Management Areas

Plant selections for SWM areas can come from the following list. Native species are preferred but non-natives can be used if compelling reasons exist. The Design-Builder shall solicit Administration approval before using non-native plant material or material not on the following lists.

#### Submerged Aquatic Planting Zone

Botanical Name	Common Name
Elodea canadensis	Waterweed
Potamogeton pectinatus	Sago Pond Weed
Potamogeton perfoliatus	Redhead Grass

Vallisneria americana

Wild Celery

**Emergent & Floating Aquatic Planting Zone**

Botanical Name	Common Name
<b>Emergents</b>	
Acorus calamus	Sweet Flag (broadleaf)
Iris versicolor	Blue Flag (broadleaf)
Juncus canadensis	Canada Rush
Juncus effusus	Soft Rush
Nuphar luteum	Spatterdock (broadleaf)
Osmunda regalis	Royal Fern (broadleaf)
Peltandra virginica	Arrow Arum (broadleaf)
Pontederia cordata	Pickerelweed (broadleaf)
Sagittaria latifolia	Duck Potato (broadleaf)
Scirpus cyperinus	Woolgrass
Scirpus pungens	Common Three-square
<b>Floating Aquatics</b>	
Nelumbo lutea	Lotus
Nymphaea odorata	Fragrant Water Lily

**Frequently Fluctuating Zone**

Botanical Name	Common Name
<b>Live Fascines:</b>	
Salix nigra	Black Willow
Salix sericea	Silky Willow
Cornus amomum	Silky Dogwood
Cephalanthus occidentalis	Buttonbush

**Plugs: (Note: Inclusion on this list does not guarantee availability in plug form)**

Chelone glabra	White Turtlehead
Dennstaedtia punctilobula	Hay-Scented Fern
Erythronium americanum	Trout Lily
Eupatorium dubium	Joe-Pye Weed
Eupatorium perfoliatum	Common Boneset
Lilium canadense	Canada Lily
Lilium superbum	Turk's Cap Lily
Lobelia cardinalis	Cardinal Flower
Lobelia siphilitica	Great Blue Lobelia
Oenothera fruticosa	Narrow-leaved Sundrops
Osmunda cinnamomea	Cinnamon Fern
Osmunda regalis	Royal Fern
Panicum virgatum	Switchgrass
Sisyrinchium atlanticum	Coastal Blue-eyed Grass
Solidago rugosa	Wrinkle Leaf Goldenrod



**SPECIAL PROVISIONS**

SCOPE OF WORK FOR DESIGN, BUILD, OPERATE AND MAINTAIN

CONTRACT NO. CH3505174

47 of 89

Thelypteris palustris  
 Tripsacum dactyloides  
 Verbena hastata

Marsh Fern  
 Gama Grass  
 Blue Vervain

**Perimeter Shade Plantings**

<b>Botanical Name</b>	<b>Common Name</b>
<b>Canopy Trees:</b>	
Acer rubrum	Red Maple
Betula nigra	River Birch
Carya cordiformis	Bitternut Hickory
Carya glabra	Pignut Hickory
Liquidambar styraciflua	Sweetgum
Nyssa sylvatica	Blackgum
Platanus occidentalis	American Sycamore
Populus deltoides	Eastern Cottonwood
Populus heterophylla	Swamp Cottonwood
Quercus bicolor	Swamp White Oak
Quercus michauxii	Swamp Chestnut Oak
Quercus phellos	Willow Oak
<b>Understory and Flowering Trees</b>	
Alnus serrulata	Smooth Alder
Amelanchier canadensis	Serviceberry
Magnolia virginiana	Sweetbay Magnolia
<b>Shrubs:</b>	
Aronia arbutifolia	Red chokeberry
Cephalanthus occidentalis	Buttonbush
Hypericum densiflorum	Dense St. John's Wort
Rhododendron maximum	Rose Bay Rhododendron
Rhododendron periclymenoides	Pink Azalea
Rhododendron viscosum	Swamp Azalea
Rubus allegheniensis	Allegheny Blackberry
Sambucus canadensis	Common Elderberry
Viburnum prunifolium	Black Haw
<b>Frequently Fluctuating Zone</b>	
<b>Canopy Trees:</b>	
Betula lenta	Sweet or Black Birch
Carya alba (tomentosa)	Mockernut Hickory

**SPECIAL PROVISIONS**

SCOPE OF WORK FOR DESIGN, BUILD, OPERATE AND MAINTAIN

CONTRACT NO. CH3505174

48 of 89

<i>Carya ovata</i>	Shagbark Hickory
<i>Diospyrus virginiana</i>	Common Persimmon
<i>Fagus grandifolia</i>	American Beech
<i>Fraxinus americana</i>	White Ash
<i>Juniperus virginiana</i>	Eastern Redcedar
<i>Pinus echinata</i>	Shortleaf Pine
<i>Pinus strobus</i>	White Pine
<i>Pinus virginiana</i>	Virginia Pine
<i>Prunus serotina</i>	Black Cherry
<i>Quercus alba</i>	White Oak
<i>Quercus coccinea</i>	Scarlet Oak
<i>Quercus palustris</i>	Pin Oak
<i>Quercus rubra</i>	Northern Red Oak
<i>Quercus stellata</i>	Post Oak
<i>Quercus velutina</i>	Black Oak
<i>Tilia americana</i>	American Basswood
<i>Tsuga canadensis</i>	Eastern Hemlock
<i>Ulmus rubra</i>	Slippery Elm
<hr/>	
Understory and Flowering Trees	American Hornbeam
<i>Carpinus caroliniana</i>	
<i>Corylus americana</i>	American Hazelnut
<i>Cercis canadensis</i>	Eastern Redbud
<i>Chionanthus virginicus</i>	White Fringetree
<i>Cornus florida</i>	Flowering Dogwood
<i>Crataegus crus-galli</i>	Cockspur Hawthorn
<i>Ilex decidua</i>	Possom Haw
<i>Kalmia latifolia</i>	Mountain Laurel
<i>Ilex opaca</i>	American Holly
<i>Juniperus virginiana</i>	Eastern Redcedar
<i>Sassafras albidum</i>	Sassafras
<hr/>	
Shrubs:	
<i>Comptonia peregrine</i>	Sweet Fern
<i>Cornus amomum</i>	Silky Dogwood
<i>Euonymus americanus</i>	Strawberry Bush
<i>Hamamelis virginiana</i>	Witchhazel
<i>Hydrangea arborescens</i>	Wild Hydrangea
<i>Leucothoe racemosa</i>	Fetterbush
<i>Lyonia ligustrina</i>	Male-berry
<i>Gaylussacia baccata</i>	Black Huckleberry
<i>Rhus glabra</i>	Smooth Sumac
<i>Vaccinium corymbosum</i>	Highbush Blueberry
<i>Vaccinium stamineum</i>	Deerberry

**SPECIAL PROVISIONS**

SCOPE OF WORK FOR DESIGN, BUILD, OPERATE AND MAINTAIN

CONTRACT NO. CH3505174

49 of 89

Vaccinium vacillans  
 Viburnum acerifolium  
 Viburnum dentatum

Early Lowbush Blueberry  
 Maple-Leaved Arrowwood  
 Southern Arrowwood

**Bioretention Planting**

<b>Botanical Name</b>	<b>Common Name</b>	
<b>Trees:</b>		
Acer rubrum	Red Maple	
Betula lenta	Sweet Birch	
Carya glabra	Pignut Hickory	(if no underdrains)
Cercis canadensis	Eastern Redbud	
Chionanthus virginicus	White Fringetree	
Cornus florida	Flowering Dogwood	
Crataegus crus-galli	Cockspur Hawthorn	
Diospyrus virginiana	Common Persimmon	(if no underdrains)
Juniperus virginiana	Eastern Redcedar	
Nyssa sylvatica	Black Gum	(if no underdrains)
Pinus echinata	Shortleaf Pine	(if no underdrains)
Pinus strobus	White Pine	(if no underdrains)
Pinus virginiana	Virginia Pine	(if no underdrains)
Quercus rubra	Northern Red Oak	(if no underdrains)
Quercus velutina	Black Oak	(if no underdrains)
<b>Shrubs</b>		
Aronia arbutifolia	Red Chokeberry	
Hamamelis virginiana	Witchhazel	
Hypericum densiflorum	Dense St. John's Wort	
Ilex decidua	Possum Haw	
Kalmia latifolia	Mountain Laurel	
Lindera benzoin	Spicebush	
Rhus glabra	Smooth Sumac	
Vaccinium corymbosum	Highbush Blueberry	
Viburnum acerifolium	Maple-leaved Arrowwood	
Viburnum dentatum	Southern Arrowwood	
<b>Herbaceous</b>		
Aquilegia canadensis	Eastern Columbine	
Asclepias incarnata	Swamp Milkweed	
Asclepias tuberosa	Butterflyweed	
Aster divaricatus	White Wood Aster	
Aster ericoides	Heath Aster	
Aster novi-belgii	New York Aster	
Baptisia australis	Blue False Indigo	
Eupatorium fistulosum	Joe-Pye Weed	

**SPECIAL PROVISIONS**

SCOPE OF WORK FOR DESIGN, BUILD, OPERATE AND MAINTAIN

CONTRACT NO. CH3505174

50 of 89

<b>Botanical Name</b>	<b>Bioretention Planting Common Name</b>
Eupatorium rugosum	White Snakeroot
Heliopsis helianthoides	Oxeye Sunflower
Hepatica americana	Round-lobed Hepatica
Heuchera americana	Alumroot
Liatris graminifolia	Grass-Leaf Blazingstar
Monarda fistulosa	Wild Bergomot
Penstemon digitalis	Beardtongue
Physostegia virginiana	Obedient plant
Polygonatum biflorum	Solomon's Seal
Rudbeckia fulgida	Early Coneflower
Rudbeckia hirta	Black-eyed Susan
Rudbeckia laciniata	Tall Coneflower
Rudbeckia triloba	Three-lobed Coneflower
Saxiifraga virginensis	Early Saxifrage
Silene stellata	Starry Companion
Solidago caesia	Blue-stemmed Goldenrod
Solidago rigida	Rigid Goldenrod
Solidago speciosa	Showy Goldenrod

**Code 378 Embankments**

<b>Botanical Name</b>	<b>Common Name</b>
SHA Permanent Seed Mix	
SHA Special Purpose Mix	
Andropogon virginicus	Broomsedge
Bouteloua curtipendula	Sideoats Grama
Dichanthelium clandestinum	Deertongue
Elymus canadensis	Canada Wild Rye
Elymus virginicus L.	Virginia Wildrye
Eragrostis curvula	Weeping Lovegrass
Panicum virgatum	Switchgrass
Schizachyrium scoparium	Little Bluestem
Sorghastrum nutans	Indiangrass
Tripsacum dactyloides	Eastern Gama Grass

**3.11.04.4 Additional Requirements for Stormwater Management Areas****3.11.04.4.1 SWM Visual Quality Monitor**

9/9/08

The Administration will provide a SWM Visual Quality Monitor (SWM VQ Monitor) to review and provide written comments on SWM facility design plans, oversee grading, planting, outfall structure pigmentation and safety features. Visual and environmental quality and safety shall be accommodated in the final SWM facility designs. This shall be accomplished with input of the Design-Builder's Landscape Architect.

The Design-Builder shall coordinate visual quality review for SWM facilities with the Administration. This review shall consist of a meeting to discuss the SWM facilities as they relate to visual and environmental quality and safety.

Consultation and written comments offered by the Administration shall be incorporated into the SWM facility design. The Administration's written comments shall be satisfactorily addressed and resolved before finalizing the SWM facility plans.

#### 3.11.04.4.2 Woody Plant Restrictions and Buffer Zones

Planting of woody species, including live fascines, shall be in accordance with Pond Code 378 requirements at SWM embankments and SWM outfall structures. No woody material shall be planted on the SWM embankment (roadway and non-roadway), within 15 feet of the toe of SWM embankment fill or within 25 feet of the SWM outfall structure.

A 15-foot buffer zone within Administration right-of-way shall be provided at the toe of SWM embankments (roadway and non-roadway) that shall be maintained free of woody vegetation.

#### 3.11.04.4.3 Planting Height Restrictions at SWM Embankments

SWM embankments and buffer zones shall be planted with warm season grasses and/or turf grass that can be maintained to a height of 10 inches.

#### 3.11.04.4.4 Soil Amendments (Fertilizer, Lime, Compost)

Soil amendments shall be applied as required according to soil testing to achieve healthy growth of plants and seed areas to ensure establishment. This includes turf establishment and plant pit amendments.

Areas targeted for warm season grass and native meadow establishment should not be amended with fertilization and other amendments.

## 3.11.04.4.5 Bioretention Soil Mix (BSM)

BSM is a blended mixture of sand, mulch and planting soil that is used at the filter medium in bioretention facilities, surface sand filters and dry swales. BSM shall be a homogeneous mix, free of stones, stumps, roots or other similar objects larger than 2 in. and shall be free from any parts of Bermuda grass, Quackgrass, Johnsongrass, Mugwort, Nutsedge, Poison Ivy, Canada Thistle, Tearthumb, Phragmites or other noxious weeds as specified in COMAR 15.08.01.05.

Care shall be taken when placing BSM and planting and watering within BSM to ensure that excessive compaction is avoided.

BSM shall consist of the following textural grading analysis:

Item	Criteria	Test Method
Sand (2.0 – 0.050 mm)	65 – 80%	T88
Silt (0.050 – 0.002 mm)	0 – 15%	T88
Clay (less than 0.002 mm)	1 – 5%	T88
Organic Matter	15 – 25%	T194

BSM shall also be sampled in conformance with MSMT 356 and meet the following criteria:

Item	Criteria	Test Method
pH	5.5 – 7.5	D4972
Magnesium	Minimum 35 ppm	*
Phosphorus (Phosphate – P <sub>2</sub> O <sub>5</sub> )	Minimum 75 ppm	*
Potassium (K <sub>2</sub> O)	Minimum 85 ppm	*
Soluble Salts	Not to exceed 500 ppm	*

\* University of Delaware, College of Agriculture and Natural Resources, Soil Testing Program Test Method

## 3.11.04.4.6 SWM Seed Mix

The seed mix used at frequently fluctuating zone, surface sand filter and dry swale facilities shall be according to the following percentages. The rate of application is listed under Minimum Planting Requirements above.

Botanical Name	Common Name	Percent of Mix
Andropogon gerardii	Big Bluestem	50%
Bromus inermis	Smooth Brome	25%
Panicum virgatum	Switchgrass	25%

Seeding Seasons for SWM Seed Mix are listed in the following table.

REGIONS	SPRING AND FALL (MONTH/DAY)	SUMMER (MONTH/DAY)	LATE FALL (MONTH/DAY)
1. Charles County	3/1 to 5/15 and 8/1 to 10/20	5/16 to 7/31	10/21 to 11/20
	No Additives	Plus Additive A	Plus Additive B
	Plus Additive C for seeding: Slopes 4:1 and steeper		
3. ADDITIVES A = Lovegrass or Foxtail Millet B = Temporary Seed Mix C = Sericea Lespedeza			

NOTE: The Design-Builder shall supply substitute seed for Lovegrass, Foxtail Millet, and Sericea Lespedeza when seeding within 4 miles of a State airport.

#### 3.11.04.4.7 SWM Structure Color

Cleanouts and vents shall be black in color. Riprap stone used for aprons, channel lining, check dams, and outfall stabilization shall be brown or gray in color; no white riprap shall be used on the Project. All Concrete outfall structures that are visible from the roadway or adjacent property shall be stained with the same light brown or light grey color (Federal Standard 595B colors: 30277, 30145, or 30219).

#### 3.11.04.4.8 SWM Facility Safety

The Administration discourages the use of fencing at SWM facilities wherever possible while ensuring safety. Safe design can be incorporated in many ways such as selection of appropriate facility types, flat side slopes, benches, planting, and proper design of the riser structure. Deterrent features such as fencing shall only be used after an attempt to design safety features has shown that fencing is warranted.

Facilities designed with permanent water levels, including forebays, of greater than 2 feet require design and construction of the following safety features:

- A) NO TRESPASSING signs shall be placed so as to be visible from all adjacent properties. At a minimum, one sign shall be placed for each facility at the access point, with additional signs added as necessary to ensure that potential trespassers from adjacent properties are alerted.
- B) Side slopes shall be 4:1 or flatter. This includes both the upstream and downstream sides of stand-alone SWM embankments and roadway SWM

embankments. Cut slopes with reforestation can be steeper than 4:1 with Administration approval.

- C) Benches shall be placed around the perimeter of permanent pools that are 2 ft. or greater in depth. The benches shall be a minimum 15 ft. wide and centered at the permanent pool elevation with a grade of 12:1 or flatter.

#### 3.11.04.4.9 Hydraulic Structures

Safety shall be considered in the design and placement of hydraulic structures including risers, weirs, headwalls and end walls. Structure design shall provide the safety features listed below in order to ensure that the facilities are safe without the use of railings.

- A) Control Riser & Weir Structures shall include a minimum 4ft.-2in. dimension or greater on two consecutive sides adjacent to the manhole cover at the top of riser structures that are 30 in. or greater in height to allow maneuvering of the manhole cover from the frame.
- B) Riser and weir structure height shall be less than 48 inches to ground surface, even if the ground surface is submerged. If the structure is placed on a bench, there shall be a minimum of 5 feet from the structure to edge of permanent water surface.
- C) Railings shall be provided at headwalls or end walls that are 48 inches or greater in height from top of wall to the ground surface. Fencing shall be 42 inches in height and black or brown coated chain link with a top rail.

#### 3.11.04.4.10 Stabilized Maintenance Access

A stabilized maintenance access from a public right-of-way to all SWM facilities shall be provided and shall conform to the following:

- A) A 12 ft. wide maintenance access shall be provided to the facility bottom, forebay bottom, inflow and outflow structures. The maintenance access shall consist of stabilized soil constructed with a 6 inch depth cellular confinement system filled with open graded aggregate, topped with 4 inches of topsoil and seeded and mulched.
- B) Turnarounds shall be provided at the top and bottom of the access that allow large maintenance vehicles to turn completely around where possible. Room shall be provided at the entrance for a maintenance truck with trailer to pull completely off the roadway without blocking the maintenance access.
- C) The preferred maximum slope at maintenance access shall not exceed 8:1 (12%). The Administration may approve slopes as steep as 6.6:1 (15%) when conditions warrant.



- D) The surface of the maintenance access road shall be a minimum of 1 ft. above any permanent water surface.
- E) The entrance shall not be blocked with traffic barrier, parking or other permanent obstructions. A depressed curb and/or concrete apron shall be required at locations designated by the Administration.
- F) A 12 ft. wide double gate shall be provided where fencing is used at the stabilized maintenance access. A method to secure the gate in the closed position and an exterior grade padlock and 2 keys shall be provided to the Administration for each gate.

#### 3.11.04.4.11 SWM Planting Plan Requirements

The locations and depths of liners shall be shown clearly on planting plans. Woody trees and shrubs shall not be planted over liners.

A note shall be added to the plans when planting over liners that care shall be taken not to puncture them. No augers of any kind shall be used when digging plant pits over liners.

The planting zones (submerged aquatic, emergent & floating aquatic, frequently fluctuating) shall be shown on the plan and clearly labeled. The contour line and elevation label for the permanent water elevation and the 10 year storm elevation shall be shown and labeled.

#### 3.11.04.4.12 Contour Grading and Mowability at SWM Facilities

Contour grading at SWM facilities shall incorporate curvilinear shapes with minimal straight lines and without any sharp angles, where possible. Landforms shall be graded into the facility shape to increase the flow path and provide visual interest. Landforms shall be natural in design and blend well with the SWM facility and surrounding landscape.

Grade steepness shall be dictated by safety (see above) and mowability. Areas that require routine mowing shall be 4:1 or flatter. Routine mowing is required at the following areas:

- A) Maintenance Access;
- B) SWM embankment (both upstream and downstream faces);
- C) 15 foot clear zone at embankment toe;
- D) Around outfall structure;
- E) Emergency spillway;

- F) Bottom and side slopes of dry swales and surface sand filters; and
- G) Filter strips at grass channels, infiltration basins, infiltration trenches, dry swales and Bioretention.

Grading and planting design shall incorporate areas requiring mowing into the design and layout. Access shall be provided to all mowing areas from the maintenance access. Dimensions and turning requirements of standard mowing equipment shall also be accommodated in the design.

#### 3.11.04.4.13 SWM As-Built Certification for Plant and Turf Survivability

In addition to requirements identified in the Drainage Performance Specification, the SWM as-built certification includes submission of documentation and verification of minimum survival rates for plants at SWM facilities and turf within conveyances to the facilities.

#### 3.11.04.4.14 Plant and Turf Establishment Certification Package

The Design-Builder shall submit a plant and turf establishment certification package that consists of field photos, completed turf inspection checklists, completed planting checklists and the contract planting plans and details. If survivability percentages are not achieved, notation shall be made on the plans and report designating the plants or areas that are dead or exhibit patchy growth. A description of efforts taken to bring the plantings or turf up to the required survivability shall be included in the report. A schedule for implementing the remediation efforts and documentation of completion of the remediation efforts shall be included.

#### **Stages for Plant and Turf Establishment Inspections.**

At the two year care and replacement inspection, the plant and turf establishment inspection shall also be conducted and documented. Plants shall be inspected for species, size, quantity, health and location. Plants that measure smaller than the installed size shall be considered dead and replaced. Plant and turf establishment inspections shall be conducted in accordance with the Administration's standards.

The following planting and turf shall be inspected and documented:

- A) Ponds and Wetlands.
- B) SWM embankment (including roadway embankment if applicable) and clear zone 15 feet beyond toe of embankment cleared of woody vegetation and established with turf or native grasses: During second growing (plant

establishment phase inspection) season to verify a vegetation survival rate at submerged benches and wetlands of 50 %.

- C) Filtering Systems: Establishment of turf on weir, bottom and sides of facility, and all conveyances draining to the facility. At Bioretention Facilities, to verify a plant survival rate of at least 90 %, the mulch bed shall be inspected and replenished to constructed depth and condition.
- D) Open Channel Systems: For Dry Swales, inspect establishment of turf on weir, bottom, side slopes and conveyances draining to the facility. For Wet Swales, inspect establishment of turf on weirs, sides and all conveyances draining to the facility. Inspect planting at bottom of facility for 50 % survival rate.

#### 3.11.04.5 Landscape Requirements

##### 3.11.04.5.1 Contour Grading

The Design-Builder shall perform contour grading throughout the limits of the Contract. Contour grading for both cut and fill conditions shall be performed so that the resultant landforms are natural in appearance, blend well with the surrounding landscape and built features, facilitate positive drainage, and minimize opportunities for erosion. Grading shall be performed to maintain desirable existing vegetation and accommodate the Contract's landscape plantings. Changes in slopes shall be rounded to appear smooth and natural.

##### 3.11.04.5.2 Access Gates

Access Gates shall be provided for maintenance access. Access gates shall be 12 foot wide double gates (each leaf 6 feet wide) and shall match the height and material of adjacent fencing. An exterior grade padlock with 2 keys shall be provided for each gate. Gates shall not be blocked with guardrail, parking or any permanent obstructions.

Access gate locations shall be coordinated with the Administration and utility owners.

##### 3.11.04.5.3 Stormwater Management Fence

SWM fencing shall be constructed and consist of black vinyl coated chain link fencing. Chain link fencing shall be provided according to the Administration's Pond Fencing Guidelines with a height of 3.5 feet and be placed so as to be visually unobtrusive. Fencing shall be required and constructed at SWM facilities when safety features can not be incorporated into the design and construction.

When chain link fencing is used at stormwater management facilities, a top rail shall run continuously between terminal posts at the top of the chain link. Chain link shall be tied to the top rail at 2 foot maximum spacing. The top rails shall conform to the brace rail and brace rail attachment specifications. No brace rail is required when top rails are used.

A tension wire shall be run continuously between terminal posts near the bottom of the fabric and be attached to the fabric with hog ring fasteners at 18 inch intervals. A 12 foot wide double gate shall be constructed at each SWM facility requiring fencing.

### **3.11.05 Submittals**

#### **3.11.05.1 Final Planting Plan**

The final landscape planting plan shall include all plant types, sizes and locations for the Project. The plans shall be submitted at a scale of 1 inch equals 20 feet.

#### **3.11.05.2 Nutrient Management Plan/Report**

The Design-Builder shall comply with the Maryland Nutrient Management Law and regulations.

Prior to performing turf establishment and sodding, the Design-Builder shall sample and test soils for limestone, sulfur, compost and fertilizer needs in accordance with the procedures identified in the Administration's MSMT 356 "Sampling and Testing Soil for Nutrient Management Plan".

The procedures described in the above MSMT 356 shall be used in determining if stockpiles are suitable for use as furnished topsoil. Information on the rootmat and topsoil are included in the geotechnical boring logs contained in Part 7-Engineering Data.

The Design-Builder shall use the soil test results and obtain the services of a Maryland certified Nutrient Management Consultant to develop a Nutrient Management Plan, including nitrogen, phosphorus, potassium and limestone input levels for the Project. A directory of certified Nutrient Management Consultants may be found by contacting the Nutrient Management Program at 410-841-5959.

The Design-Builder shall submit the Nutrient Management Plan to the Administration for consultation and written comments.

#### **3.11.05.3 Soils Reports**

The Design-Builder will submit all soil testing reports to the Administration. Soil testing shall be performed for texture, particle size gradation, pH and organic content. The soil report shall be completed and submitted in advance of the Nutrient Management Plan and coordinated with its requirements.

## **TC 3.12        GEOTECHNICAL PERFORMANCE SPECIFICATION**

### **3.12.01        GENERAL**

The Design-Builder shall conduct supplemental subsurface explorations, analyses, design and construction for all geotechnical components of the Project in accordance with all applicable criteria and standards cited herein and in accordance with this Geotechnical Performance Specification.

### **3.12.02        Standards and References**

#### **3.12.02.1       Standards**

Design and construction of all geotechnical elements shall be in accordance with this Geotechnical Performance Specification and the relevant requirements of the following standards and references unless otherwise stipulated in this specification. Standards and references specifically cited in the body of this Geotechnical Performance Specification establish requirements that shall have precedence over all others. Should the requirements in any standard conflict with those in another, the standard listed with highest priority in Table 3.12-1 shall govern unless otherwise stipulated in this specification. Listed under references are reports and resources that the Design-Builder may use to address the geotechnical requirements as the Design-Builder sees fit. It is the Design-Builder's responsibility to obtain clarification for any unresolved ambiguity prior to proceeding with any design or construction.

Use the most current version of each listed standard as of the initial publication date of this RFP unless revised by addendum or contract modification.

**TABLE 3.12-1**  
**STANDARDS FOR GEOTECHNICAL**

Priority	Author or Agency	Title
1	SHA	Office of Bridge Development, Policy and Procedure Manual
2	AASHTO	Standard Specification for Highway Bridges, 17 <sup>th</sup> Edition
3	SHA	Standard Specifications for Construction and Materials for items identified as Standard in Attachment A of Part 3-Design Requirements
4	AASHTO	Manual on Subsurface Investigations
5	AASHTO	Standard Specifications for Transportation Materials and Methods of Sampling and Testing – Parts I and II
6	ASTM	Annual Books of Standards
7	MDE	2000 Maryland Stormwater Design Manual Volumes I and II
8	FHWA	Mechanically Stabilized Earth Walls and Reinforced Soil slopes, Design and Construction Guidelines
9	SHA	Book of Standard for Highways, Incidental Structures and Traffic Control Applications for items identified as Standard in Attachment B of Part 3-Design Requirements

### 3.12.02.2 References

Use the references listed in Table 3.12-2 as supplementary guidelines for the design and exploration of the geotechnical subsurface. These publications have no established order of precedence.

**TABLE 3.12-2**  
**REFERENCES FOR GEOTECHNICAL**

Author or Agency	Title
FHWA	Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Slopes
FHWA	Geosynthetic Design and Construction Guidelines
FHWA	Geotechnical Engineering Circular No. 1: Dynamic Compaction
FHWA	Geotechnical Engineering Circular No. 2: Earth Retaining Systems
FHWA	Geotechnical Engineering Circular No. 4: Ground Anchors and Anchored Systems
FHWA	Geotechnical Engineering Circular No. 5: Evaluation of Soil and Rock Properties
FHWA	Geotechnical Engineering Circular No. 6: Shallow Foundations
FHWA	Geotechnical Engineering Circular No. 7: Soil Nail Walls

Dunnicliff      Geotechnical Instrumentation for Monitoring Field Performance,  
Dunnicliff 1986  
SHA              Standard Specifications for Subsurface Investigations

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### 3.12.03      Requirements

#### 3.12.03.1      Geotechnical Subsurface Exploration

##### 3.12.03.1.1      Design-Builder's Subsurface Exploration

The Design-Builder shall prepare and implement a subsurface exploration and testing program with all field and laboratory testing necessary to establish the geotechnical conditions and to perform all geotechnical analyses. The program, herein designated as the Design-Builder's subsurface exploration program, shall be developed and implemented to obtain the data as required to meet the requirements of AASHTO and the Design-Builder's design approach and construction methods. The locations, number, depths and types of boreholes, laboratory and field-testing and sampling shall conform to the standards of practice of the Administration, AASHTO and the FHWA. The details of the Design-Builder's field and laboratory testing programs for design shall be submitted to the Administration as part of the Geotechnical Planning Reports for review and comment. The rationale for development of the exploration programs, data interpretation, and parameter selection, together with descriptions of the methods of analyses, shall be clearly presented.

The Administration will review and provide written comments on the Design-Builder's subsurface exploration plan prior to its implementation. The Design-Builders shall perform its subsurface exploration program to establish all geotechnical parameters and subsurface conditions required for design and construction.

<b>TABLE 3.12-3</b>	
<b>MINIMUM REQUIREMENTS FOR BORING DEPTH</b>	
<b>Areas of Investigation</b>	<b>Boring Depth</b>
Cuts	Borings shall extend a minimum of 15 feet below the anticipated depth of the cut at the ditch line.
Embankments	See AASHTO Manual on Subsurface Investigations, Section 7.4.4.2.
Culverts	Use criteria presented above for Retaining walls/wing walls
Stormwater Management	See the 2000 Maryland Stormwater Design Manual Volumes I and II

<b>TABLE 3.12-4</b>	
<b>MINIMUM REQUIREMENTS FOR BORING LAYOUT*</b>	
Geotechnical Features	Boring Layout
Roadway Embankments and Cuts	See AASHTO Manual on Subsurface Investigations, Section 7.4.3.2
Culverts	AASHTO Manual of Subsurface Investigations, Section 7.4.3.3.
Stormwater Management	See the 2000 Maryland Stormwater Design Manual Volumes I and II

\* Foundation borings must be within 25-feet of the substructure unit to be applicable.

Among the requirements for the subsurface investigation and laboratory testing to be performed for the Project are the following:

- A) Supervision and Inspection – All geophysical investigations shall be planned and performed under the direct supervision of a geophysicist with a minimum of 10 years experience. All boring and in-situ testing inspections shall be performed by field inspectors that have passed the NHI Subsurface Investigation Qualification Course (#132079), and; (a) be a degreed engineer or geologist; or, (b) have a minimum of two (2) years of field experience in the inspection and reporting of field sampling and testing of similar size and content. All field investigations and laboratory testing shall be performed under the direct supervision of a Maryland-registered professional engineer with a minimum of five (5) years experience in the performance and supervision of geotechnical engineering Projects.
- C) Soil classification shall be performed in accordance with the AASHTO Classification system.

#### 3.12.03.1.2 Laboratory Testing

After collecting soil and rock samples, laboratory tests will be performed to quantify material properties and verify design assumptions. The type and number of tests required are primarily a function of the variability of the site, the purpose of the study, and the amount of risk and potential consequences of failure. Sufficient testing shall be performed so that the geotechnical engineer is satisfied that the test results are representative of in-situ conditions. All standard soil and rock sample laboratory testing shall be performed in accordance with the appropriate AASHTO Test Designation. All laboratory testing shall be performed by laboratories with AMRL certification for each specific test performed.



**3.12.04 Construction**

The Design-Builder is responsible for any and all damage (including, but not limited to settlement and vibrations) to property, structures, or utilities, both inside and outside of the State Right-of-Way, caused by the Work on the Project, and shall appropriately mitigate for these damages.

**3.12.04.1 Fill Embankment Construction**

The Design-Builder shall submit the source and material properties of all fills proposed for use, including the results of gradation tests and plasticity tests. All laboratory tests shall be performed in accordance with the appropriate ASTM/AASHTO test methods. The bearing capacity of the embankment subgrade shall be validated by the Design-Builder's Geotechnical Engineer prior to initiating construction. Sheet flow across the slope face will not be permitted during construction or for the permanent condition until vegetation is established on the face of the slopes.

**3.12.04.1.1 Settlement of Embankments**

Prior to releasing any fills and/or surcharges and proceeding with subsequent construction activities, the Design-Builder shall compile, and submit any settlement data, including proof that all settlements necessary have occurred.

**3.12.04.1.2 Embankment Construction Near Existing Structures**

Where embankments or walls are to be constructed in the vicinity of existing structures, the Design-Builder shall develop and implement a program for performing preconstruction surveys and monitoring movement of structures that shall include the following:

- A) Estimate the settlement influence zone from embankment and construction loads that includes settlements in excess of 1/2-inch;
- B) Site reconnaissance to determine the sensitivities of adjacent structures to settlement;
- C) Identification of site-specific facilities that may be adversely affected by settlement;
- D) Procedures to mitigate and to compensate property owners affected by settlement/movement resulting from construction activities.

**3.12.05 Submittals**

All submittals shall be subject to review and approval as per TC Section 3.08.03.3.

**TC 3.13      MAINTENANCE OF TRAFFIC (MOT), HAUL ROUTES AND ACCESS  
DURING CONSTRUCTION PERFORMANCE SPECIFICATION**

**3.13.01      General**

The Design-Builder shall develop and implement Maintenance of Traffic (MOT) Plans in accordance with the requirements of this specification including performance requirements, standards and references, design and construction criteria, maintenance during construction, and required reviews.

Impacts on the environment, including surrounding communities, shall be kept to a minimum, and shall be considered when developing and implementing the Maintenance of Traffic Plans.

The Administration has not anticipated closing any roads for any period of time.

**3.13.02      Standards and References****3.13.02.1      Standards**

The Design-Builder shall design and implement Maintenance of Traffic set-ups in accordance with the relevant requirements of the Standards listed by priority in Table 3.13-1 unless otherwise stipulated in this specification. Standards specifically cited in the body of this specification establish requirements that shall have precedence over all others. Should the requirements in any Standard below conflict with those in another, the Standard listed with the higher priority shall govern. It shall be the Design-Builder's responsibility to obtain clarification for any unresolved or perceived ambiguity prior to proceeding with design or construction.

**TABLE 3.13-1  
STANDARDS FOR MAINTENANCE OF TRAFFIC**

Priority	Author or Agency	Title
1	SHA	Temporary Traffic Barrier Policy
2	SHA	Guidelines for Late Lane Merge Concept
3	SHA	Flagger Policy at Signalized Intersections
4	SHA	Functional Guidelines for Portable Changeable Message Signs (PCMS)
5	SHA	Maryland State Police Criteria for Use in Work Zones and Interagency Agreement between SHA and Maryland State

**TABLE 3.13-1**  
**STANDARDS FOR MAINTENANCE OF TRAFFIC**

Priority	Author or Agency	Title
		Police
6	SHA	High Visibility Apparel Policy
7	SHA	Work Zone on 45/40 MPH Roadways
8	SHA	Work Zone Safety Policy
9	SHA	Roadway Delineation Policy
10	SHA	Protection Vehicle Use
11	SHA	Office of Traffic and Safety Approved Product List for Temporary Traffic Control Devices and Miscellaneous Items
12	SHA	List of Qualified Removable Preformed Pavement Marking Material for Maintenance of Traffic
13	SHA	Maryland State Highway Standard Sign Book
14	SHA	Book of Standards for Highway and Incidental Structures for items identified as Standard in Attachment B of Part 3-Design Requirements
15	SHA	Standard Specifications for Construction and Materials Section for items identified as Standard in Attachment A of Part 3-Design Requirements
16	AASHTO	A Policy on Geometric Design of Highways and Streets
17	FHWA	Manual on Uniform Traffic Control Devices in Particular, Part VI Temporary Traffic Controls)
18	AASHTO	Roadside Design Guide
19	FHWA	National Cooperative Highway Research Program (NCHRP) Report 553 Crashworthy Work Zone Traffic Control Devices
20	FHWA	National Cooperative Highway Research Program (NCHRP) Report 350 Recommended Procedures for the Safety Performance Evaluation of Highway Features.
21	SHA	Work Zone Safety Tool Box
22	ATSSA	Quality Standards for Work Zone Traffic Control Devices
23	ADA	American's with Disabilities Act Accessibility Guidelines

### **3.13.03 Performance Requirements**

**3.13.03.1 MOT Plan**

The Design-Builder shall develop and implement a MOT Plan for each site (if required) that meets the following performance requirements:

- A. Provides for the safe and efficient passage of pedestrian and vehicular traffic through construction zones including those with disabilities;
- B. Minimizes negative impacts on residents, commuters, and businesses;
- C. Maintains and provides access at all times to property by owners, customers, visitors, and emergency vehicles; and
- D. Provides a safe travel corridor while minimizing any unnecessary investment in the existing infrastructure that is being replaced.

**3.13.04 Design and Construction Criteria****3.13.04.1 Traffic Through Construction Zones**

The Design-Builder shall perform the following:

- A. Implement MOT Plans for all roadways within the Project limits in a manner that safely and efficiently accommodates traffic at all times. Provide all material, labor, equipment, and personnel to effectively carry out the MOT Plans.
- B. Begin maintenance of traffic activities at the start of construction work (including preparatory MOT work), or when first hauling construction materials and/or equipment, whichever is earliest, and continue MOT activities until Completion of the Project.
- C. Maintain access to all businesses and residences at all times, including all temporary approaches and crossings of intersections with roads and streets.
- D. Provide all specified construction roads required for delivery of fill, concrete, and all other materials required for the Project.
- E. As stated in Section 3.13.01 of this performance specification, the Administration has not anticipated closing any local roads for any period of time.
- F. Correct all traffic control deficiencies immediately upon notification or observance of the deficiency.

- G. Design all active roadways to accommodate drainage such that there are no puddles or icing on the traveled roadway or shoulders.

#### 3.13.04.2 Pedestrian and Bicycle Traffic

The Design-Builder shall maintain all existing pedestrian and bicycle access along existing roadways at all times during construction. The pedestrian access way shall be fully compliant with all applicable regulations for accessibility, as defined by the Americans with Disabilities Act (ADA) and including provisions for a well defined path from accessible parking areas and public walkways.

Recreational trails, including bicycle paths, shall also be maintained and kept in good condition. Access to all recreational facilities shall be provided and coordinated with the appropriate governing agency.

#### 3.13.04.3 Schools and Public Transportation Agencies

The Design-Builder shall coordinate with the local schools, appropriate Board of Education, and public transportation agencies for both city and local county to maintain bus, private vehicle, and pedestrian access to education facilities and public transportation services in the area. Access to bus stops shall also be maintained. Construction impacts on school bus and public transportation routes shall be coordinated with the local agencies.

#### 3.13.04.4 Maintenance of Traffic Manager

The Design-Builder shall provide a MOT Manager to perform the following:

- A. Coordinate MOT activities with the Administration;
- B. Implement traffic management strategies;
- C. Be continuously available during construction until Final Completion of the Project and elimination of all construction traffic control; and
- D. Supervise the activities of the Traffic Control Maintainer.

#### 3.13.04.5 Motorist Guidance

The Design-Builder shall provide guidance and signage to and along the entire length of every detour route to motorists who are diverted around or traveling through the construction areas. Signing that is not in compliance with the MUTCD or Category 1 of

the SHA Book of Standards shall be corrected within 24 hours, unless the sign is a critical regulatory or warning sign, in which case the sign shall be corrected within 6 hours of notice. If the deficiency is caused by an accident, the 6 hours begins when access to the area is available.

## **TC 3.14 RETROFIT PERFORMANCE SPECIFICATION**

### **3.14.01 GENERAL**

The Project consists of a combination of stormwater management facility maintenance and retrofit. All retrofit sites and some remedial maintenance sites will require impacts to existing drainage infrastructure. All such areas shall require assessment to determine adequacy of proposed drainage systems (e.g. capacity, outfall stability, system condition, and other parameters). This includes consideration of both stormdrain conveyances and roadside ditches or swales. -

### **3.14.02 STANDARDS**

Design and construct the drainage system in accordance with the relevant requirements of the Standards, which are listed by priority in Table 3.14-1, unless otherwise stipulated in this specification. Standards specifically cited in the body of this specification establish requirements that shall have precedence over all others. Should the requirements in any standard conflict with those in another, the standard listed with the higher priority shall govern. The Design-Builder shall obtain clarification for any unresolved or perceived ambiguity prior to proceeding with design or construction.

Use the most current version of each listed standard as of the publication date of this RFP.

**TABLE 3.14-1  
STANDARDS FOR DRAINAGE**

Priority	Author or Agency	Title
1	SHA	Maryland Department of Transportation, publications entitled "Highway Drainage Manual" dated December 1981 or as amended herein and any revisions thereof.
2	MDE	Regulation COMAR 26.09.01, "Erosion and Sediment Control"
3	MDE	"Erosion and Sedimentation Guidelines for State and Federal Projects"
4	MDE	"1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control"
5	MDE	MDE Regulation COMAR 26.08.04, "National Pollutant

**TABLE 3.14-1**  
**STANDARDS FOR DRAINAGE**

Priority	Author or Agency	Title
		Discharge Elimination System General Permit for Construction Activity”.
6	MDE	Regulations COMAR 26.17.02, “Stormwater Management”
7	MDE	“Stormwater Management Guidelines for State and Federal Projects”
8	MDE	“2000 Maryland Stormwater Design Manual”, Volumes I and II.
9	MDE	Regulations COMAR 26.17.04 “Construction on Nontidal Water and Floodplains.”
10	MDE	“Guidelines for Construction on Nontidal Waters and Floodplains.”
11	MDE	Regulation COMAR 26.08.02.10, “Water Quality Certification”
12	SHA	“Stormwater Management, Erosion and Sediment Control and Waterway Construction Permit Issues and Approaches”
13	FDOT	“State of Florida DOT Drainage Manual”, January 2006, Tables 6.2 and 6.3 regarding service life of corrugated metal pipes

### **3.14.03 Stormwater Management Design and Approvals**

The Design-Builder shall coordinate all reviews and submissions with the Administration. The Administration will review and comment on the Design-Builder’s plans and, once satisfied that the plans will meet MDE requirements, the Administration will coordinate with MDE to obtain formal approval of the Design-Builder’s Stormwater Management (SWM) plans and calculations.

Once the MDE review process is complete, the Design-Builder shall submit 3 sets of the approved plans and reports to the Administration. The Design-Builder shall ensure that copies of the most current approved plans are available to all personnel involved in the construction and inspection of the Project.

Maryland Department of the Environment (MDE) SWM Review and Approval:

- A. The Design-Builder shall be responsible for demonstrating to the Administration that all of the stormwater management needs of the Project can be met within the right-of-way shown or identified by the Design-Builder. The final design of each facility shall be acceptable to both the Administration and MDE prior to construction.

- B. A SWM Report that addresses each facility shall be prepared by the Design-Builder and submitted to the Administration for review and comment. Once comments have been successfully resolved and incorporated by the Design-Builder, the Preliminary SWM Report will be forwarded to the MDE for formal approval. Deviations from the MDE approved SWM Report by the Design-Builder are the sole responsibility of the Design-Builder. The Administration will not pay for any additional design, MDE review coordination, construction or other costs incurred due to deviations from the SWM Report.
- C. The SWM Report shall address SWM for the drainage area to each retrofit site. The Letter of Intent from MDE will be issued based upon MDE's acceptance of the Stormwater Management Report, and the use of SWM facilities described therein. Various types of SWM facilities may be used, but they shall meet all requirements of the 2000 Maryland Stormwater Design Manual and subsequent changes with concurrence from the Administration and formal approval from MDE prior to construction.

#### **3.14.04 Stormwater Management General Requirements**

Stormwater management (SWM) Best Management Practices (BMPs) shall conform to MDE's *2000 Maryland Stormwater Design Manual* and *Stormwater Management Guidelines for State and Federal Projects*, and the following:

- A. The Design-Builder shall capture and provide water quality and quantity control for runoff from SHA roadways and offsite areas currently draining to the facility, per the intent of the design. Treatment of SHA drainage shall meet sizing requirements identified in the *2000 Maryland Stormwater Design Manual* to the maximum extent possible. The existing intended treatment of offsite areas shall be met at a minimum. Due to the nature of the failing facilities, it is likely that treatment has been marginalized; therefore, providing existing treatment volumes may not meet the intent of the original design. It is the responsibility of the Design-Build Team to coordinate with the Administration to verify minimum design requirements for each facility.
- B. The Design-Builder shall demonstrate compliance with MDE's Channel Protection Volume (Cpv) requirements in accordance with Table 2.1, *2000 Maryland Stormwater Design Manual*. Cpv storage shall be provided in surface facilities depending on available right of way and with concurrence from the Administration prior to construction.
- C. Waivers of or variances from strict adherence with MDE requirements shall be evaluated on a case by case basis.

##### **3.14.04.1 BMP Selection**



The Design-Builder shall present SWM facility types for retrofit sites for the Administration's consultation and written comment prior to advancing SWM design. The Administration will use the following criteria in evaluating proposed facilities:

- A. The best fit given the site context and minimization of footprint shall be considered.
- B. BMPs requiring lower maintenance shall be considered first. Potential maintenance needs shall be considered when designing SWM facilities.
- C. Maintenance access and frequency.
- D. Underground SWM facilities will not be accepted.
- E. Infiltration facilities will not be accepted as a retrofit for a failed infiltration facility, unless demonstrated that the site conditions are most suitable for infiltration and the previous failure is due to the lack of maintenance, or by other external factors such as siltation due to the off-site runoff from disturbed areas or not stabilized construction sites. The proposed infiltration facility, however, needs to be sized to meet the current MDE criteria.

#### 3.14.04.2 SWM Specific Engineering Criteria

- A. Proposed stormwater management facilities shall have coordinated detailing throughout the Project and they shall be worked into the concepts for the corridor landscaping. This means that facility types, outfall structure designs, detailing, colors, planting palette, landforms, surface area shapes and fencing (if required) shall be consistent. Refer to Planting and Landscape Architectural Performance Specifications for further information regarding landscaping design and SWM.
- B. Riser structures and pipe outfall systems shall be concrete. Concrete structures that are visible shall meet the requirements set forth in the Planting and Landscape Architectural Performance Specifications.
- C. Concrete pipe used for stormwater management pond outfalls shall meet the requirements of ASTM C-361. Riser structures shall be set in embankments or placed so they are easily accessed for maintenance. Riser structures shall also be placed so they are visually unobtrusive. Risers shall be cast in place or precast as one unit. Refer to the 2000 Maryland Stormwater Design Manual for additional SWM specifications.
- D. The finish and appearance of trash racks where required on stormwater management pond risers visible from the roadway or adjacent communities shall be consistent with roadway aesthetic requirements found in the Planting and Landscape Architectural Performance Specifications. Trash racks not visible from the roadway or adjacent

- communities shall be hot-dipped galvanized metal, M 111-80. Trash racks shall be designed as flat-fronted cages that stand away from and completely enclose the riser opening(s). Ends of the steel rods shall be attached to a frame that attaches to the structure. Trash rack designs shall use similar detailing for all openings on the structure. Trash rack detailing shall be similar throughout the Project.
- E. Open tops on outfall structures are not preferred. If they are used, a trash rack shall be designed that is not placed horizontally but is placed at an angle of not less than 1" vertical for every 12" horizontal in order to reduce the potential for clogging.
  - F. Low flow, perforated pipes shall be wrapped with galvanized wire mesh rather than geotextile. Pipes extending into ponds shall be anchored against flotation.
  - G. SWM embankments shall be planted in accordance with the Planting and Landscape Architectural Performance Specifications. No woody material shall be planted on pond fill embankments, within 15 feet of the toe of pond embankments, or within 25 feet of pond outfall structures. Material for the SWM embankments is required to conform to NRCS Pond Code MD-378 as found in the 2000 Maryland Stormwater Design Manual, Appendix B1, embankment clay core and cut-off trench shall conform to A-2-7, A-7-2, A-4-7, A-7-4, or A-7. Maximum particle size shall be three inches.
  - H. Filter diaphragms shall be used for embankment seepage control in place of anti-seep collars within the SWM embankment when classified as embankment ponds under the 2000 Maryland Stormwater Design Manual, Appendix B1. The design criteria for filter diaphragms shall be as outlined in the 2000 Maryland Stormwater Design Manual, Appendix B1.
  - I. A minimum 15 foot clear zone shall be provided within the Project right-of-way at the toe of SWM pond embankments to keep woody vegetation clear.
  - J. Fencing of SWM facilities shall meet requirements set forth in the Planting and Landscape Architectural Performance Specification.

#### 3.14.04.3 SWM As-Built Certifications

This Work shall consist of inspecting stormwater management (SWM) facilities during various stages of construction and providing documentation to the Administration that certifies SWM facilities have been constructed as specified in the Contract Documents, including certification that the constructed SWM facilities meet the functionality as designed.

**3.14.04.4 As-Built (AB) Inspector**

The AB Inspector shall be a licensed Professional Engineer or Land Surveyor in the State of Maryland with experience in stormwater management design and construction.

**3.14.04.5 As-Built Certification Package**

The as-built certification package shall consist of photographs, completed as-built checklists for each SWM facility, completed as-built certification forms for each SWM facility, material testing reports for any soil, a copy of green-line revision plans for SWM facilities that include as-built survey information, a copy of completed planting checklists, and turf inspection data for SWM facilities and drainage conveyances areas (such as ditches and swales). Information about the person(s) that perform the plant and turf inspections shall be part of the as-built certification package and shall include, but not be limited to, name of person(s), employer name, brief description of related work history, contact information, and anticipated dates for plant and turf establishment inspections. The Design-Builder shall provide to the Administration two hard-copies and one digital copy in PDF format of the as-built certification package.

The AB Inspector shall perform minimum inspections for SWM facilities as follows:

**A. Ponds:**

1. Upon completion of excavation to sub-foundation and when required, installation of structural supports or reinforcement for structures, including, but not limited to:
  - a. Core trenches for structural embankments;
  - b. Inlet (riser) and outlet structures, anti-seep collars or diaphragms, and watertight connections on pipes; and
  - c. Trenches for enclosed storm drainage facilities.
2. During placement of structural fill, concrete, and installation of piping and catchbasins;
3. During backfill of foundations and trenches;
4. During embankment construction; and
5. Upon completion of final grading and establishment of permanent stabilization.

- B. Wetlands. Refer to stages specified for pond construction. Additional inspections include:
1. During and after wetland area planting; and
  2. During the second growing season to verify a vegetation survival rate of no less than fifty percent (50%).
- C. Infiltration Trenches:
1. During excavation to subgrade;
  2. During placement and backfill of underdrain systems and observations wells;
  3. During placement of geotextile and all filter media;
  4. During construction of appurtenant conveyance systems such as diversion structures, pre-filters and filters, inlets, outlets, and flow distribution structures; and
  5. Upon completion of final grading and establishment of permanent stabilization.
- D. Filtering Systems. Filtering systems include bioretention, sand filters, organic filters, bio-filters, and dry swales:
1. During excavation to subgrade;
  2. During placement and backfill of underdrain systems;
  3. During placement of geotextile and all filter media;
  4. During construction of appurtenant conveyance systems such as flow diversion structures, pre-filters and filters, inlets, outlets, orifices, and flow distribution structures; and
  5. Upon completion of final grading and establishment of permanent stabilization.
- E. Open Channel Systems. Open channel systems include wet swales and grass channels:
1. During excavation to subgrade;
  2. During installation of diaphragms, check dams, or weirs; and

3. Upon completion of final grading and establishment of permanent stabilization.

F. Non-Structural Practices; and

- G. Upon completion of final grading and after the establishment of permanent stabilization.

The checklist for each SWM facility shall be completed in its entirety at the appropriate stages of construction as specified in the Contract Documents. The as-built certification shall be signed and dated by the AB Inspector upon completion of all SWM facility checklists.

#### 3.14.04.5.1 As-Built Survey, Computations and Green-Line Drawings

Upon completion of the final grade and stabilization at each SWM facility, the Design-Builder shall survey each SWM facility retrofit, including contours, inflow and outflow ditches, limits of riprap, emergency spillway(s), outfall structure(s) (including elevations and dimensions at top, all orifices, weirs and openings), and all other pertinent features in and around the facility. The constructed elevations shall be within 3 inches of design elevations. Elevation variance greater than 3 inches shall be corrected by the Design-Builder to meet the acceptable tolerance limits or the Design-Builder shall provide computations for the volumes, discharges, stage-storages, freeboard, detention times and other parameters deemed necessary by the Design-Builder or the Administration that demonstrate that the SWM facility meets the designed parameters. The Design-Builder shall resurvey any corrected areas.

#### 3.14.04.5.2 Submission to and Acceptance by the Administration

The Design-Builder shall submit the completed as-built certification package to the Administration for final acceptance.

### **3.14.05 Erosion and Sediment Control (ESC) Design and Approvals**

The Design-Builder shall prepare and submit an Erosion and Sediment Control plan for the Project to the Administration for review, comment and coordination with MDE. The Administration has established a review and approval process with MDE for the project. Under that process, the Administration will review and comment on the Design-Builder's plans and, once satisfied that the plans will meet MDE requirements, the Administration will coordinate with MDE to obtain formal approval of the Design-Builder's Erosion and Sediment Control plans and calculations.

The Design-Builder shall assign an employee to serve in the capacity of primary Erosion and Sediment Control Manager (ESCM). The ESCM and the Construction Manager shall have

successfully completed the Administration's Erosion and Sediment Control Certification Training for Contractors and Inspectors and obtained a completion certificate (Yellow Card) prior to beginning earth disturbance activities on the Project. This certification must be current at all times. If the certification is expired or revoked for either person, the Design-Builder shall immediately replace the personnel with appropriately certified persons acceptable to the Administration.

### **3.14.06 Erosion and Sediment Control Program**

The Design-Builder shall be responsible for developing an ESC Program for earth disturbing activities and restoration of areas used for temporary impacts. Elements of the ESC Program shall include but not be limited to:

A. ESC Plans: Plans meeting the requirements of MDE's Erosion and Sediment Control Guidelines for State and Federal Projects shall be submitted to the Administration for review, comment and coordination with MDE for each retrofit area. The Design-Builder shall be responsible for addressing any comments supplied by the Administration. Upon approval of ESC plans by the Administration, the Administration shall submit the final plans to MDE for formal approval.

B. A written ESC Sequence of Construction, in concert with Traffic Control Plan (TCP), shall include:

1. Detailed steps necessary to establish and maintain clear water diversions through or around any work area; and
2. Proposers shall submit an Earth Disturbance Area (EDA) plan to demonstrate to the Administration that the proposed areas of ground disturbance will be consistent with proposed resources to grade in a timely and quality manner and, more importantly, to maintain sediment and erosion controls. An EDA is a Design-Builder defined work area, in this case the limits of disturbance for each retrofit facility, within the Project limits that must be disturbed to carry out a contiguous grading operation. A grading operation is defined by the Design-Builder's ability to provide adequate resources to perform the grading in a timely manner and provide and maintain the proper erosion and sediment control measures for the duration of the earth disturbing activities and until final stabilization is accomplished. The Plan shall include a storm response plan depicting steps to be taken to assess, mobilize, and resolve ESC issues after a major storm event.

C. Once the MDE review process is complete, the Design-Builder will be granted final approval from the Administration and shall submit a completed Notice of Intent (NOI) Form to MDE in accordance with the NPDES General Permit for Construction Activities.

D. Design-Builder's Inspection and Maintenance Protocols for ESC devices, including plans for preemptive actions to address predicted severe weather events and sediment spills.

E. Design-Builder's approach to stockpiling materials needed to perform emergency maintenance.

### **3.14.07 ESC Quality Assurance Ratings**

ESC compliance will be monitored and surveyed during retrofit construction by the Administration/EMT (see Environmental Performance Specification) to ensure compliance with the approved ESC plan. The Design-Builder shall, after obtaining ESC approval for the earth disturbance area (EDA) required for a grading operation, demarcate limits of disturbance, wetlands and wetland buffers, floodplains, and tree protection areas, and shall proceed with clearing and grubbing of the earth disturbance area under approved ESC plans and schedules. The Administration's EMT will perform ESC surveys to ensure compliance with ESC plans at least once-bi-weekly (every other calendar week), and assign one of the following ratings:

#### **3.14.07.1 Rating A**

The Project will receive an 'A' rating from the Administration if the score is equal to or greater than 90 on form number OOC61, ESC Field Investigation Report.

#### **3.14.07.2 Rating B**

The Project will receive a 'B' rating from the Administration if the score is 80.0 to 89.9 on Form OOC61, ESC Field Investigation Report.

#### **3.14.07.3 Rating C**

The Project will receive a 'C' rating from the Administration if the score is 70.0 to 79.9 on Form OOC61, ESC Field Investigation Report. A 'C' rating indicates that the Project is in compliance, however, deficiencies are noted and shall be corrected. Conditions for a shut down could arise quickly. If the Project receives a 'C' rating, it will be formally re-surveyed by the EMT within 72 hours. If the deficiencies have not been satisfactorily corrected, a grade of 'D' will be given and all grading operations will be shut down until the project receives a 'B' rating.

#### **3.14.07.4 Rating D**

The Project will receive a 'D' rating from the Administration if the score is 60.0 to 69.9 on Form OOC61, ESC Field Investigation Report. A 'D' rating indicates that the Project is in non-compliance. All earthwork operations on the Project will be shut down by the Administration. All work efforts within Project limits shall focus on correcting ESC deficiencies. The Project will be formally re-surveyed by the EMT within 72 hours. All required corrective actions shall be completed within the 72 hour period for the Project to

be upgraded to a 'B' rating. Failure to upgrade to a 'B' rating will result in the Project being rated an 'F'. ESC noncompliance triggers shutdowns (see Section 3.14.07.6 below).

#### 3.14.07.5 Rating F

The Project will receive an 'F' rating from the Administration if the score is less than 60.0 on Form OOC61, ESC Field Investigation Report; or if the Design-Builder has not obtained all appropriate permits and approvals, demarcated limits of disturbances, wetland and wetland buffers, floodplains, and tree protection areas; or is not proceeding according to the approved ESC plan and schedules. An 'F' rating indicates that the Project is in noncompliance, and the ENTIRE Project will be shut down by the Administration until the Project receives a 'B' rating. All work efforts shall focus on correcting ESC deficiencies. The Project will be formally re-surveyed by the EMT within 72 hours of receiving an 'F' rating. ESC noncompliance triggers shutdowns (see Section 3.14.07.6 below).

#### 3.14.07.6 Shutdowns

When a 'C' rating is assigned to Project, the Design-Builder shall have all deficiencies corrected within 72 hours. The Project will be formally re-surveyed by the EMT at the end of this period. If it is found that the deficiencies have not been satisfactorily corrected, a 'D' rating will be assigned and all earthwork operations will be shut down until the Project receives a 'B' rating.

When a consecutive 'C' rating is assigned for other deficiencies and the original deficiencies were corrected, the Design-Builder will be alerted that the overall effort is marginal and a shut down of all earthwork operations for the Project is imminent if ESC efforts do not substantially improve within 72 hours. The Project will be formally re-surveyed by the EMT at the end of the 72 hour period. If it is found that the deficiencies have not been satisfactorily corrected or other deficiencies are identified by the EMT that result in a score of less than 80 on form number OOC61, a 'D' rating will be assigned and all earthwork operations will be shut down until the Project receives a 'B' rating.

When a disregard for correcting these deficiencies is evident, an 'F' rating will be assigned and the ENTIRE Project will be shut down until the Project receives a 'B' rating.

When degradation to a resource is imminent, or if the Design-Builder is unresponsive to perform corrective action, the Administration may elect to have corrective actions performed by another contractor or by Administration staff. All costs associated with this corrective work will be billed to the Design-Builder in addition to the liquidated damages.



**3.14.08 Design-Builder Responsibilities**

The Design-Builder shall demarcate with stakes and flagging and maintain for the duration of the Project boundaries of all wetlands, wetland buffers, floodplains, tree protection areas, and the Limits of Disturbance (LOD) as specified. Prior to beginning any earth disturbing activity the Design-Builder shall have all demarcated wetlands, wetland buffers, floodplains, tree protection areas, and LOD inspected and approved by the Administration and MDE. The Design-Builder shall construct all ESC measures in conformance with this Specification. The Design-Builder shall have all control measures inspected and approved by the EMT and MDE Inspector prior to beginning any other earth disturbing activity. The Design-Builder shall ensure that all runoff from disturbed areas is directed to the sediment control measures. The Design-Builder shall not remove any demarcation device or erosion and sediment control measure without the consent of the Administration and MDE Inspector.

**3.14.09 Schedule**

At least 14 days prior to initiating any earth disturbance on the Project, the Design-Builder shall submit an ESC Schedule to implement the ESC Plan to the Administration and MDE for approval. The schedule shall indicate the sequence of construction, implementation and maintenance of controls, temporary and permanent stabilization, and the various stages of earth disturbance. After acceptance of the schedule by the Administration, it will be forwarded to MDE for formal approval. The schedule shall, as a minimum, include the following:

- A. Demarcation (and maintain demarcation for the duration of the local earth disturbing activity) of all wetlands, wetland buffers, floodplains, tree protection areas, and the LOD prior to any earth disturbing activity;
- B. Clearing and grubbing of areas necessary for installation of perimeter controls specified in the Contract Documents;
- C. Construction of perimeter controls specified in the Contract Documents;
- D. Remaining clearing and grubbing;
- E. Roadway grading (including off-site work).
- F. If applicable, utility installation and whether storm drains shall be used or blocked after construction;
- G. Conversion of sediment basins to permanent SWM facilities;
- H. Final grading, landscaping, and stabilization; and
- I. Removal of perimeter controls.

No earth disturbing activities shall be started on-site or off-site until the ESC schedules and methods of operation have been accepted by the Administration and MDE. The Design-Builder's Project Superintendent and ESC Manager shall complete the Administration's ESC course successfully prior to initiation of any land disturbing activities on the Project.

### **3.14.10 Severe Weather Event**

ESCs shall be maintained at all times. A Severe Weather Event is defined as 6.0 inches or more of rainfall within a 24 hour period (25-year frequency). When such an event occurs, the Design-Builder shall maintain, repair or replace any damaged ESC devices within 48 hours or prior to the next rainfall event, whichever comes first. Qualification as a Severe Weather Event will be based upon rainfall data recorded at the Reagan International Airport as reported by the National Climatic Data Center (NCDC), Asheville, NC. A lump sum payment of \$5,790 will be paid for each Severe Weather Event occurring between the start of grading operations and removal of the ESCs. The purpose of the lump sum payment is to mitigate the Design-Builder's risk with regard to maintenance, repair and/or replacement of any and all ESC devices damaged by the event provided that a minimum rating of "B" is maintained immediately before and within 48 hours following the rainfall event. The Design-Builder shall be responsible for submitting the official weather records documenting the event.

### **3.14.11 ESC Specific Design Criteria**

Prior to permanent seeding and mulching, slopes flatter than and including 2:1 slopes, shall be covered with 4 inches of topsoil.

Daily stabilization for land disturbance within any drainage areas adjacent to wetlands and streams shall be accommodated in the design and implementation of the ESC plans.

Potential strategies to limit the potential for erosion may include, but are not limited to, the following:

- A. The use of clear water diversions shall be used to the maximum extent feasible to limit the amount of area required to be controlled;
- B. Benching long cut or fill slopes to limit the risk of rilling on steep slopes and to lessen the slope of longitudinal ditches; and
- C. Other innovative techniques presented by the Design-Builder with prior written concurrence from the Administration and approval from MDE prior to construction.

### **3.14.13 Submittals**

#### **3.14.13.1 Stormwater Management Plans for Retrofits**

The following items shall be included in the design plan documents:

- A. Pipe profiles for all storm drain systems. Profiles shall be at a scale of 1 in. = 50 ft. horizontal and 1 in. = 5 ft. vertical. The 25-year hydraulic gradient and existing and proposed ground, proposed pipe, existing utilities and existing structures shall be shown on all storm drain profiles;
- B. Details for all non-standard or modified drainage structures.
- C. Stormwater Management Systems including spot elevations, contours, drawings and views as specified in MD-378;
- D. Side, median and outfall ditch elevations, offsets, and configurations and surface treatments; and
- E. Underdrain connections, locations (including linear filter clean outs), and outlets.

#### 3.14.13.2 Erosion and Sediment Control Plans

The Design-Builder shall develop ESC Plans that include the following.

- A. At a minimum, plans for both initial and final stages of the construction are required. The plans will require 2 foot contouring and interim contours as needed for both existing (pre-construction) conditions and final grade.
- B. Interim phase(s) of ESC may be required to address changes in drainage characteristics during construction or changes necessitated by multiple phase traffic control plans. Interim phase plans will require 2 foot contouring showing existing or previously constructed conditions and proposed grades to be established by each particular interim phase being addressed.
- C. The final phase will detail the control measures required to move to final grade and accommodate interim traffic control phases. Final phase shall also address conversion of temporary sediment control basins to stormwater management ponds where appropriate.
- D. Larger scale drawings (1 in. = 200 ft.) will be included in the plans depicting off-site drainage areas, sensitive environmental resource areas such as wetlands, woodlands, streams, and locations of major diversions and sediment controls.
- E. This plan will be coordinated with the MDE Non-tidal Wetland and Waterways Division to ensure compliance with ESC measures in areas subject to waterway construction permits. The Design-Builder shall be responsible for all revisions due to MDE review and comment.
- F. All plans shall be sealed and signed by a Maryland Registered Professional Engineer.

## G. Earth Disturbance Area (EDA) Plan.

## 3.14.13.3 Stormwater Management Reports and Manuals

A SWM Report shall be completed for each retrofit site. The SWM Report shall be prepared in conformance with MDE's Stormwater Management Guidelines for State and Federal Projects, July 2001, and these Specifications.

## 3.14.13.3.1 SWM Report Format

The report and accompanying mapping shall be compiled as follows:

- A. The report shall be written in a clear, well organized and concise manner with all the pages numbered and dated;
- B. The report shall be placed in an 8½ by 11 inch, 3-hole binder that allows for insertion of revisions and removal of deletions and old data;
- C. The Design-Builder shall make revisions to the report as required to keep reports current with design and construction activities. The date of the revision shall be placed on all pages and pages to be added, replaced or removed shall be designated. Revisions shall be 3-hole punched for easy placement in the reports; and
- D. The final, approved report shall be converted to a Portable Document Format (.pdf) file, including all mapping and exhibits. The electronic file shall be delivered to the Administration for their records.

## 3.14.13.3.2 SWM Report Contents

In addition to MDE requirements, the Stormwater Management Engineering Report shall contain the following:

- A. A thorough discussion explaining the extent of improvements at each retrofit site and the proposed quantitative and qualitative methods of SWM, including those reasons why others were not selected;
- B. An explanation of hydrologic/hydraulic analysis methodologies used (i.e., TR-20, HEC-RAS programs). Final supporting computations, maps, schematics, cross-sections, details and computer runs shall be included for each retrofit site;

- C. Outfall stability analysis including pre- and post-construction photographs taken of each outfall and receiving channel;
- D. Computations for riprap sizing and outlet protection design;
- E. Maps and schematics clearly showing the location of subareas, structures, existing land use, time of concentration paths, soil types and SWM facilities. Maps shall be folded to 8-1/2" X 11" with map title showing and included in pockets within the report;
- F. Computer printout sheets in 8½ inch x 11 inch format. These sheets shall be clearly labeled for cross-reference to the supporting data and points of analysis;
- G. MDE Pond Summary Sheets (included with this package);
- H. Water Quality Summary (included with this package) submitted to the Administration for signature, and maps detailing the types of impervious area treated and the amount of water quality treatment required and provided at each outfall;
- I. NOI Form (included with this package) filled out and submitted to the Administration; and
- J. SHA BMP Summary Sheet (included in this package) with SHA BMP numbers indicated.

## **TC 3.15      INVENTORY AND INSPECTION PERFORMANCE SPECIFICATION**

### **3.15.01      General**

In the third year of the contract, all facilities shall be inventoried and inspected. The purpose of the inspection is to document drainage conditions and maintenance needs within each facility, and to identify the performance rating for each.

### **3.15.02      Standards**

Perform the maintenance in accordance with the relevant requirements of the Standards, which are listed by priority in Table 3.15-1, unless otherwise stipulated in this specification. Standards specifically cited in the body of this specification establish requirements that shall have precedence over all others. The Design-Builder shall obtain clarification for any unresolved or perceived ambiguity prior to proceeding with the inventory or inspections.

Use the most current version of each listed standard as of the publication date of this RFP.

**TABLE 3.15-1**  
**STANDARDS FOR REMEDIAL MAINTENANCE**

Priority	Author or Agency	Title
1	SHA	“Storm Water NPDES Program Standard Procedures Manual”

### **3.15.03 Workshop**

Early in the third year of the contract, a 2-day workshop will be provided by the State Highway Administration Highway Hydraulics Division that will discuss the components of the geodatabase, how to manage the data, and how to perform the inspections. All personnel performing the inspections and the GIS Specialist identified per Section TC 2.09 shall attend the workshop.

### **3.15.04 Inventory**

The existing geodatabase for Charles County will be provided to the Design-Build Team in Arc-GIS format for update. In addition to the existing geodatabase, base map data, including land-use information, hydrologic features, utility operating maps, roadway data, construction drawings, as-built drawings, access permits, digital CADD files, aerial imagery, watershed boundaries, and topography will be provided by the Highway Hydraulics Division for each of the facilities, as needed and as available. The base map data shall be reviewed by the Design-Build Team to verify the data contained within the existing geodatabase, and to correct and/or update these records.

Field data shall then be collected to verify each of the components of the BMPs. GPS points shall be obtained for all identified surface features to be included in the GIS.

The drainage area boundaries shall be verified or delineated based on base map data and field observations and provided records.

### **3.15.05 Inspections**

Inspections shall be conducted per Section 3.06.27 and per the standards identified in Section 3.15.02.

Teams of two inspectors shall be utilized for the inspections to maximize safety. All inspectors shall have attended the workshop discussed above.

Action items identified during the inspections must be addressed by the Design-Build Team. This means that all facilities must receive an SHA Response Rating of I (No Maintenance Response Required). Final payment shall not be made if outstanding action items exist.

The inspections will be audited by the State Highway Administration Highway Hydraulics Division. Where a discrepancy exists between the ratings given by the Design-Build Team and the Administration, the Administration's rating shall govern.

#### 3.15.05.1 Performance Ratings

All facilities must be "functioning as designed". This means that all facilities must have a performance rating, as defined in Section 3.06.08 of "A" or "B". Any facility receiving a "C" or lower performance rating is not functioning as designed, and corrective action must be taken.

#### 3.15.05.2 Performance Incentive

Since the goal of this project is to increase the functionality and effectiveness of stormwater facilities within Charles County, the Administration has included an incentive payment to be earned by the Design-Build Team for exceptional stormwater facility performance. As stated in Section 3.15.05.01, all facilities must be "functioning as designed", with a performance rating of "A" or "B" by the conclusion of the contract. However, for each facility with a rating of "A" at the conclusion of the contract, an incentive payment shall be made to the Design-Build Team of \$1,000. This would provide a maximum cumulative incentive of \$100,000.

### 3.15.06 Submittals

The completed geodatabase shall be submitted to Highway Hydraulics for review and approval. All files shall conform to requirements stated in Section 3.08.04 and per the standards identified in Section 3.15.02. SHA will perform a quality assurance check on all documents submitted.

## TC 3.16 CONSTRUCTION REQUIREMENTS

### 3.16.01 Construction Standards

#### 3.16.01.1 Book of Standards

Details and dimensions of drainage structures, TCPs, traffic barriers, etc., shall comply with the Administration's "Book of Standards, Highway and Incidental Structures."

**3.16.01.2 Specifications for Construction and Materials**

Construction and materials shall comply with the Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, January 2001, including all Special Provision Inserts and these Special Provisions.

**3.16.01.3 Industry Standards**

Industry standards, such as ASTM and AASHTO, that are referenced in the Administration's specifications and standards shall also be met. If an item of work is not covered by the Administration's specifications and standards, the materials and construction methods used shall meet the appropriate, nationally accepted industry standards and be submitted to the Administration for approval.

**3.16.02 Construction Stakeout**

The Design-Build Team shall refer to SP 107 - CONSTRUCTION STAKEOUT (For Design-Build Projects) for project specific requirements.

The Design-Build Team shall engage a Registered Professional Land Surveyor, licensed in the State of Maryland, to determine all lines and elevations for various parts of the retrofit work, as the work progresses:

- A. Verify that the field locations of the established horizontal controls and benchmarks correspond with figures shown on the Design-Build Team's Contract Drawings.
- B. Establish vertical references and axis lines showing elevations and other lines and dimensional reference points as required for the execution of the work.
- C. Field check facilities and surveys thereof as required by the technical sections of the Specifications.
- D. Stake out the limit of disturbance at all wetland areas.
- E. Stakeout the Right-of-Way Line

**3.16.03 Maintenance of Traffic**

All maintenance of traffic work is to comply with the approved traffic control plans, the Manual on Uniform Traffic Control Devices (MUTCD), the Maryland Supplement to the MUTCD and special provisions. The Design-Build Team shall maintain vehicle, bike and pedestrian traffic at all times.

**A. Advanced Notice Requirements**

The Design-Build Team shall notify the Administration's Engineer 14 days in advance of implementing any changes in traffic patterns.



**B. Schedules/Sequences of Construction**

The Design-Build Team shall schedule tie-in operations so as not to be working intermittently throughout the area. Schedule and pursue excavation and other construction activities to permit making the connection without unnecessary delays. Perform utility work in conformance with the maintenance of traffic requirements shown on the approved Drawings and/or as indicated in the Standards.

**C. Protection of Open Excavation**

Pursuant to the General Provisions, the Design-Build Team is responsible for protection of the work and safety of the public.

The use of decking or plates to close trenches, temporary wedge material to prevent pavement edge drop-off, and the installation of temporary channelizing devices and/or traffic barriers may be required as unforeseen conditions develop during construction operations.

**D. Traffic Manager**

The Design-Build Team shall submit the Traffic Manager's name and qualifications to the Administration 10 days before MOT work is to be performed.

**3.16.04 Erosion and Sediment Control**

Except as noted below, all work shall be done in accordance with the erosion and sediment control (E&S) plans to be prepared by the Design-Build Team and approved by the Maryland Department of the Environment.

**A. Plan Adjustments and Revisions**

If approved by the MDE Sediment Control Inspector, minor field adjustments of the sediment control facilities may be made as required to accomplish the intended purpose.

Major revisions to the approved sediment control plan, as determined by the MDE Sediment Control Inspector, require the review and approval of the State of Maryland Department of the Environment. The Design-Build Team must provide for such review and obtain approval at no additional cost to the Administration.

Any changes to the approved sequence of construction shall be submitted for approval to MDE, Plan Approval Division, and the Administration, Highway Hydraulics Division.

When directed by the Administration's Engineer, the contractor shall be responsible to implement additional erosion and sediment control measures and modifications to the approved erosion and sediment control plan as required by the MDE Sediment Control Inspector and the Administration's Environmental Monitor to address unforeseen site conditions and errors and omissions during design at no additional cost to the Administration.

All plan adjustments and revisions must comply with all Federal, State and local laws, ordinances and regulations pertaining to environmental protection.

**B. Protection of Existing Waterways and Highways**

The Design-Build team will not be permitted to dump debris or rubbish of any kind or allow it to fall into a river or on highways. The Team must take care to prevent damage and injury to personnel, vessels, and vehicles using highways, or pedestrian ways. The Team will be required to provide devices and maintain as required to prevent such occurrences. Any material or items falling in a river, on adjacent banks, or on highways must be immediately removed and reported to the Engineer and the jurisdictional agency.

#### C. Fish and Wildlife Resources

The Design-Build team will not be permitted to alter water flows or otherwise disturb native habitat near or adjacent to the project construction area, unless otherwise stipulated in the project's permits and approved as an authorized action by the appropriate regulatory agencies.

#### D. Staging Areas

The Design-Build team will not be permitted to use, in connection with this Contract, for storage, as a staging area, or as a preparation site any cultural resource facility, building, site or cleared area that is, as of the date of this Contract, on or eligible for listing on the National Register of Historic Places (16 U.S.C., paragraph 470a) without prior approval of the Engineer.

For the purpose of the preceding paragraph, the term "cultural resource" includes districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, or culture.

### **3.16.05 Landscape Plantings**

All materials shall conform to Section 920 of the Maryland Department of Transportation, State Highway Administration, *Standard Specifications for Construction and Materials*, January 2001.

All construction shall conform to Sections 701 through 715, inclusive, of the Maryland Department of Transportation, State Highway Administration, *Standard Specifications for Construction and Materials*, January 2001.

### **3.16.06 Protection of Existing Utilities**

Attention of the Design-Build Team is directed to the presence of utility lines of various types in the existing and proposed streets or highways adjacent to the project limits. The Design-Build Team shall exercise special care and extreme caution to protect and avoid damage to utility company facilities. The Design-Build Team shall be responsible for determining the location of all existing utilities and incorporating them into the design prior to initiating construction.

The Design-Build Team shall locate all existing utilities and be responsible for their safety and continuous service. Should any existing utilities be damaged or destroyed due to the operations of the Design-Build Team, the damaged or destroyed components shall be immediately replaced or repaired as necessary to restore the utility to a satisfactory operating condition. These repairs or replacements shall be at no additional expense to the Administration or the owner of the utility.

**For a list of the known utility owners that have existing facilities within the limits of this contract see Section 875 – Utility Statement, located elsewhere within this RFP:**

All notifications to the utility companies and "MISS UTILITY", 1.800.441.8355, shall be given 48 hours (two full working days) in advance of working in the area of the specific affected utility. The notification to "MISS UTILITY" is required whenever any excavating or similar work is to be performed.

The Design-Build Team shall be responsible for all frame and cover adjustments required by the project, either making the adjustment, or reimbursing the utility owner. The Design-Build Team shall provide for access to all utility manholes, valves, vaults, poles, and all other above ground utility equipment, both during and after construction. This access shall consist of a firm, ten foot minimum width, route to the equipment, drivable for an AASHTO SU 30 truck. This access shall also consist of a ten foot minimum width by twenty foot minimum length parking area immediately adjacent to the equipment. Both the route and the parking area shall be completely within State right-of-way, shall have a four percent maximum cross slope, and shall have an eight percent maximum longitudinal slope. Shoulders may be part of these routes and parking areas, but travel lanes shall not be. The Design-Build Team shall design and construct this access so utility company personnel and vehicles can safely get to the equipment from public roads, work at the equipment, and safely return to the public road.

If an adjustment is required to facilities, it is necessary that the existing facilities remain in service until the new construction is complete and placed in service. Also, when adjustments are required, establishment of lead times is necessary to meet the applicable utility schedule and coordination with the Design-Build Team's work operation.

Working around or protecting the utilities, removal and disposal of materials from the utilities and cooperation with the owners of the utilities and with other contractors will not be measured but the cost will be included in the price bid.

**TERMS AND CONDITIONS****TC SECTION 4****CONTROL OF WORK FOR DESIGN-BUILD****TC-4.01 WORKING DRAWINGS.**

(a) General.

**DELETE:** Paragraph 3 in its entirety.

**INSERT:** The following:

The Design-Build Team shall prepare working drawings as described in the Standard Specifications, with the exception that the drawings shall not be submitted to the State Highway Administration, but shall be submitted to the Design-Build Team's engineer for review and approval. Following approval by the Design-Build Team's engineer, two copies of the approved drawings shall be forwarded to the Administration. The Administration shall review the drawings to determine that they meet minimum job performance specifications only. Acceptance of the drawings shall not relieve the Contractor of any responsibility in connection therewith and the Administration assumes no responsibility for the accuracy of the drawings. A two-week period will be permitted for SHA review of the working drawings. The approved working drawings shall be stamped and signed by the Design-Build Team's engineer and forwarded to:

Maryland State Highway Administration  
Director  
Office of Highway Development  
707 North Calvert Street  
Baltimore, Maryland 21202

(b) Working Drawings for Falsework Systems.

In the first paragraph, substitute Design-Build Team's Engineer for Engineer.

In the third paragraph, substitute Design-Build Team's Engineer for Engineer.

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

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

Additionally, a deduction of \$1,000 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 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 hours of receiving a notice to comply with the required maintenance provisions. The amount of monies deducted will be a permanent deduction and are not recoverable.

**TERMS AND CONDITIONS****TC SECTION 5****LEGAL RELATIONS AND PROGRESS FOR DESIGN-BUILD****TC-5.01 INSURANCE.**

.01 Commercial General Liability

99 **DELETE**: All paragraphs under TC-5.01 in their entireties.

**INSERT**: The following.

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

The Contractor shall maintain in full force and effect third party legal liability insurance necessary to cover claims arising from the Contractor's operations under this agreement which cause damage to the person or property of third parties. The insurance shall be under a standard commercial general liability (CGL) form endorsed as necessary to comply with the above requirements; or other liability insurance form deemed acceptable by the Administration. The State of Maryland shall be listed as an additional named insured on the policy. The limit of liability shall be no less than \$1,000,000 per occurrence/\$2,000,000 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 30 days notice of cancellation or non-renewal to:

Deputy Chief Engineer - Construction  
State Highway Administration  
707 North Calvert Street  
Baltimore, Maryland 21202

Evidence of insurance shall be provided to the Administration prior to the award of the Contract by means of a Certificate of Insurance with copies of all endorsements attached or, in the event insurance is provided by a policy form other than a CGL form, by certified copy of the complete policy with all endorsements.

Any policy exclusions shall be shown on the face of the Certificate of Insurance.

The Certificate of Insurance shall be accompanied by a document (a copy of State License or letter from insurer) which indicates that the agent signing the certificate is an authorized agent of the insurer.

## **SPECIAL PROVISIONS**

### **LEGAL RELATIONS AND PROGRESS FOR DESIGN-BUILD**

CONTRACT NO. CH3505174

2 of 5

When specified in the Contract Documents, the Contractor shall carry the type and amounts of insurance in addition to any other forms of insurance or bonds required under the terms of the Contract and these Specifications.

The cost of the insurance will not be measured but the cost will be incidental to the Contract lump sum price.

Contractor and Railroad Public Liability and Property Damage Insurance shall be provided as specified in TC-6.03.

#### **.02 Indemnification**

The Design-Build Team shall indemnify, defend and hold the Administration and its officers, directors, employees, agents and consultants from and against all claims, actions, torts, costs, losses, and damages for bodily injury (including sickness, disease or death) and/or tangible property damage (other than to the Work itself) arising out of or resulting from the performance of the Work by the Design-Build Team, any subcontractor, subconsultant, engineer, supplier, any individual or entity directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. Damages covered by the preceding sentence include, but are not limited to, all fees and charges of engineers, attorneys and all other professionals and all mediation, arbitration, court or other dispute resolution costs.

The indemnity obligation set forth in the preceding paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Design-Build Team or any subcontractor, subconsultant, engineer, supplier, or other individual or entity under Workers' Compensation acts, disability benefit acts, or other employee benefit acts.

#### **.03 Additional Insurance Requirements**

##### **.03.1 Professional Liability Insurance**

Professional Liability Insurance Policy, which covers the Indemnification Clause of this contract (paragraph .02 above), as it relates to errors, omissions, negligent acts or negligent performance in the work performance under this contract by the Designer, its subcontractors, employees and agents. The limitation of the Courts and Judicial Proceedings Article states Annotated Code of Maryland Section 5-108(b) shall apply.

##### **.03.2 Workers' Compensation Insurance**

Workers' compensation, as required by the laws of the State of Maryland, including Employer's Liability Coverage and coverage for the benefits set forth

## **SPECIAL PROVISIONS**

CONTRACT NO. CH3505174

### **LEGAL RELATIONS AND PROGRESS FOR DESIGN-BUILD**

3 of 5

under the U.S. Longshoremen and Harbor Workers' Compensation Act, the Jones Act, and other federal laws where applicable.

#### **.03.3 Comprehensive Automobile Liability Insurance**

**Comprehensive Business Automobile Liability covering use of any motor vehicle to be used in conjunction with this contract, including hired automobiles and non-owned automobiles is required. Loading and unloading of any motor vehicle must be covered by endorsement to the automobile liability policy or policies.**

#### **.03.4 Administrative & General Provisions**

a. Each policy, with the exception of Workers' Compensation and Professional Liability Insurance, shall name the State Highway Administration.

b. Defense of Claims

Each insurance policy shall include a provision requiring the carrier to investigate and defend all named insured against any and all claims for death, bodily injury or property damage, even if groundless.

c. Compliance

The Design-Build Team shall be in compliance with this Section provided it procures either one policy or insurance covering all work under the contract or separate insurance policies for all segments constituting the entire project. In either case, a certificate of insurance must be filed for each policy with the Administration indicating that all required insurance has been obtained.

The Design-Build Team is responsible for assuring that insurance policies required by this Contract comply with all the requirements. The Design-Build Team is also responsible to determine that all subconsultants, subcontractors, suppliers, and all other individuals or entities performing Work for the Project carry all applicable insurance coverages set forth in this section, including, in all cases, Workers' Compensation, Automobile, and Commercial General Liability Insurance. The Design-Build Team shall indemnify and hold harmless the Administration from any claims arising from the failure to fulfill said responsibilities.

d. Reporting Provisions

Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Administration, its officers, agents and employees.

9/9/08



**SPECIAL PROVISIONS****LEGAL RELATIONS AND PROGRESS FOR DESIGN-BUILD**

CONTRACT NO. CH3505174

4 of 5

## e. Separate Application

The insurance provided by the Design-Build Team shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

## .03.5 Notice of Cancellation or Modification

All policies of insurance provided in this Section shall be endorsed to provide that the insurance company shall notify the Administration, the Design-Build Team, and each named insured at least thirty (30) days prior to the effective date of any cancellation or modification of such policies.

**TC-5.03 SUBCONTRACTING AND SUBCONTRACTORS**

## .01 Percentage of Own Workforce Required

**INSERT:**

**The Design-Build Team must perform at least fifty percent of the value of the on-site construction work with its own workforce, not including the percent goal required in the contract proposal to be performed by DBE's. The Designer must perform at least fifty percent (50%) of the value of the design work with its own workforce, not including the work required by DBE's.**

**TC-5.06 OWNERSHIP OF DOCUMENTS**

All plans, specifications, inspection records, or other documents ("Documents") generated by the Design-Build Team and all consultants, subcontractors, suppliers, or manufacturers performing Work on the Project are the property of the Administration. Upon request by the Administration, the Design-Build Team or any other person or entity performing Work will produce and deliver such Documents as requested, both in hard copy and electronic format.

**TC-5.07 ACCESS TO AND RETENTION OF RECORDS**

The Design-Build Team and its employees and Subcontractors shall make all project records available for inspection by the Project Manager and all other persons authorized by the Administration, and shall permit such representatives to interview employees during working hours. Project records include daily time reports, records of force account work, quality control or assurance documentation, inspectors reports, employment records, payrolls, equal opportunity records, construction conference records, partnering records, and any other documents in any way related to the Project substantiating payment. These records shall be retained at least three years after final

**SPECIAL PROVISIONS**

LEGAL RELATIONS AND PROGRESS FOR DESIGN-BUILD  
acceptance of the project.

CONTRACT NO. CH3505174

5 of 5

**TERMS AND CONDITIONS**

**TC SECTION 6**  
**RESTRICTIONS AND PERMITS FOR DESIGN-BUILD**

**TC-6.10 RECYCLED OR REHANDLED MATERIALS.**

111      **ADD:** The following before the first paragraph.

The Contractor shall submit to the Engineer 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.

**TERMS AND CONDITIONS****TC SECTION 7****PAYMENT FOR DESIGN, BUILD, OPERATE AND MAINTAIN****TC-7.01 MEASUREMENT OF QUANTITIES**

**DELETE:** This section in its entirety.

**INSERT:** The following:

Payment for all work within the Scope of Work shall be included in the Lump Sum Price shown on the Proposal Form. The Design-Build Team shall disregard all references in the Standard Specifications to actual quantities, Contract items, Contract unit prices, and any measurement or payment method other than inclusion in the Lump Sum Price.

Payments to the Design-Build Team shall be full compensation for furnishing all materials and storage thereof, labor, mobilization and fees, and for performing all work under the contract in a complete and acceptable manner and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof.

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

**DELETE:** This section in its entirety.

**INSERT:** The following statement:

Costs associated with the storage of materials shall be included in the lump sum bid.

**TC-7.05 PROGRESS PAYMENTS**

**ADD:** The following:

**.01 Application for Progress Payment**

In order to receive payment, the Design-Build Team shall submit to the Administration a written Application for Progress Payment, including receipts, invoices, or other vouchers, including invoices from subcontractors. Applications for Progress Payment shall be made to the Administration monthly. Said invoices shall be based on the proportionate quantities of the various classes of work satisfactorily designed, checked, and completed or incorporated in the work in accordance with the Schedule of Work and the value thereof determined from the Contract Cost Breakdown as described in TC 7.09. Proportionate quantities shall be based on the proportionate cost, not number of facilities, as work at some facilities will require a higher cost than others.

If Applications for Progress Payment are inconsistent with the Cost Breakdown, the Projected Schedule of Payments, or the actual progress of work, the Application

must include a written explanation for such inconsistencies and the Administration reserves the right to withhold payment regarding said Application in whole or part.

.02 Payment of Invoices

All invoice payments shall be subject to correction in subsequent invoices and payments and upon the final acceptance and payment. No payment shall be made when, in the judgment of the Administration, the work is not proceeding in accordance with the provisions of the Contractor or when the total value of the work done since the last estimate amounts to less than \$500.00. Portions of the progress payment may be withheld in accordance with provisions of this Contract, including Section TC 7.09.

TC-7.09 COST BREAKDOWN AND SCHEDULE OF PAYMENTS

.01 Submittal of Cost Breakdown

Concurrent with the submission of the Price Proposal, the Design-Build Team shall submit to the Administration an itemized Cost Breakdown and supporting documentation to be used to evaluate bids and as a basis of payment. This breakdown shall present a realistic and documentable presentation of the costs for the major elements of work that comprise the lump sum price for the work. The breakdown shall be sent to the Director, Office of Highway Development, Mr. Kirk G. McClelland.

The Proposal Form divides the lump sum items into the following categories:

- Year 1 Routine Maintenance Design/Build

This Lump Sum cost shall cover all costs to be incurred for the design, coordination, all materials, mobilization, and construction of routine maintenance activities for all 100 facilities for a one-year period, to begin at Notice to Proceed. Routine maintenance requirements are identified in Section XXX.

- Year 1 Remedial Maintenance Design/Build

This Lump Sum cost shall cover all costs to be incurred for the design, coordination, all materials, mobilization, and construction of remedial maintenance activities for all 100 facilities for a one-year period, to begin at Notice to Proceed. The remedial maintenance activities are defined in Section XXX. It is anticipated that most, but not all of the action items defined in Section XXX will be completed in the first calendar year; however, some few items may be included in the Year 2 Lump Sum Price. Additional remedial maintenance activities may arise over the course of the project, and must be addressed.

- Year 1 Retrofit Design/Build

This Lump Sum cost shall cover all costs to be incurred for the design, coordination, all materials, mobilization, and construction of retrofit work for the 10 facilities identified in Section XXX that is performed within a one-year period, to begin at Notice to Proceed. It is anticipated that most of the effort will be spent on field assessment, design, and obtaining permits during the first year. Some retrofit construction activities may occur in the first year.

- Year 2 Routine Maintenance Design/Build

This Lump Sum cost shall cover all costs to be incurred for the design, coordination, all materials, mobilization, and construction of routine maintenance activities for all 100 facilities for a one-year period, to begin one year after Notice to Proceed. Routine maintenance requirements are identified in Section XXX.

- Year 2 Remedial Maintenance Design/Build

This Lump Sum cost shall cover all costs to be incurred for the design, coordination, all materials, mobilization, and construction of remedial maintenance activities for all 100 facilities for a one-year period, to begin one year after Notice to Proceed. The remedial maintenance activities are defined in Section XXX. It is anticipated that most, but not all of the action items defined in Section XXX will be completed in the first calendar year; however, some few items may be included in the Year 2 Lump Sum Price. Additional remedial maintenance activities may arise over the course of the project, and must be addressed.

- Year 2 Retrofit Design/Build

This Lump Sum cost shall cover all costs to be incurred for the design, coordination, all materials, mobilization, and construction of retrofit work for the 10 facilities identified in Section XXX that is performed within a one-year period, to begin one year after Notice to Proceed. It is anticipated that most of the design and permitting efforts will be completed during Year 1; and that construction will occur in Year 2.

- Year 3 Routine Maintenance Design/Build

This Lump Sum cost shall cover all costs to be incurred for the design, coordination, all materials, mobilization, and construction of routine maintenance activities for all 100 facilities for a one-year period, to begin

two years after Notice to Proceed. Routine maintenance requirements are identified in Section XXX.

- Year 3 Remedial Maintenance Design/Build

This Lump Sum cost shall cover all costs to be incurred for the design, coordination, all materials, mobilization, and construction of remedial maintenance activities for all 100 facilities for a one-year period, to begin two years after Notice to Proceed. The remedial maintenance activities are defined in Section XXX. It is anticipated that most, but not all of the action items defined in Section XXX will be completed in the first calendar year; however, some few items may remain by Year 3. Additional remedial maintenance activities may arise over the course of the project, and must be addressed.

- Year 3 Retrofit Construction Design/Build

This Lump Sum cost shall cover all costs to be incurred for the design, coordination, all materials, mobilization, and construction of retrofit work for the 10 facilities identified in Section XXX that is performed within a one-year period, to begin two years after Notice to Proceed. It is anticipated that most of the design and permitting efforts will be completed during Year 1; and that construction will occur in Year 2. Some remaining construction activities may be required in Year 3.

- Year 3 Project Closeout Inspections and GIS Updates

This Lump Sum cost shall cover all costs incurred to attend the inspection workshop and complete the inspections and GIS updates for all 100 facilities included in the contract.

The breakdown shall be tied to the Critical Path Method Project Schedule Design-Build and the lump sum items above.

The Design-Build Team shall use the Contract Cost Breakdown format in preparing and documenting its Applications for Payment. The Administration will use the Cost Breakdown to assist in evaluating requests for payment. All costs associated with preparation, submission, revision of the Cost Breakdown will not be considered as an item for payment, and shall be included in the Design-Build Team's Lump Sum price.

**The successful Design-Build Team will be required to submit an Initial Critical Path Method Project Schedule Design-Build Activities Chart within twenty (20) working days after notification of Award.** This requirement for the submission of the Initial Critical Path Method Project Schedule Design-Build does not supersede

**SPECIAL PROVISIONS**

PAYMENT FOR DESIGN, BUILD, OPERATE AND MAINTAIN

CONTRACT NO. CH3505174

5 of 4

but supplements that which is outlined in Section 112- Critical Path Method Project Schedule Design-Build.

.02 Review and Approval

See Section TC 2.12

.03 Projected Schedule of Payments

Within 7 days after approval of the Cost Breakdown, the Design-Build Team shall provide the Administration with a Projected Schedule of Payments for the Project. This schedule will provide the Administration with an estimate of monthly cash flow requirements by forecasting the Design-Build Team's monthly Applications for Progress Payments for the duration of the Project. The Projected Schedule of Payments must be in accordance with the Contract, the approved Cost Breakdown, and the Critical Path Method Project Schedule Design-Build.





**CATEGORY 100**  
**PRELIMINARY**

**SECTION 104 — MAINTENANCE OF TRAFFIC**

**104.00 General.**

148 **ADD:** After the first paragraph, “This work shall...pedestrians, and workers.”

Access to homes and businesses shall not be blocked without prior coordination with the property owner. The access shall be maintained as close as possible in width to the existing.

**CATEGORY 100**  
**PRELIMINARY**

**SECTION 104 — MAINTENANCE OF TRAFFIC**

**104.01 TRAFFIC CONTROL PLAN (TCP).**

**104.01.01 DESCRIPTION.**

- 149 **DELETE:** The fourth paragraph “The Contractor shall make...equipment, and debris.” in its entirety.

**INSERT:** The following.

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

Work is not permitted on Saturdays or Sundays.

Work is not permitted on the holidays, or work day preceding and following holidays indicated below with an “X”:

- ☒ New Year's Day, January 1
- ☒ Martin Luther King's Birthday, the third Monday in January
- ☒ President's Day, the third Monday in February
- ☒ Good Friday
- ☒ Easter Weekend
- ☒ Memorial Day, the last Monday in May
- ☒ Independence Day, July 4
- ☒ Labor Day, the first Monday in September
- ☒ Columbus Day, the second Monday in October
- ☒ Veteran's Day, November 11
- ☒ Thanksgiving Day, the fourth Thursday in November
- ☒ Christmas Day, December 25

<b>TEMPORARY LANE OR SHOULDER CLOSURE SCHEDULE</b>			
<b>ROADWAY</b>	<b># LANE(S) / SHOULDER CAN BE CLOSED</b>	<b>DAY OF THE WEEK</b>	<b>CLOSURE PERIOD (TIME OF DAY)</b>
None.			

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

When closing or opening a lane on freeways, expressways, and roadways with posted speed  $\geq 55$  mph, a work vehicle shall be closely followed by a protection vehicle (PV) during installation and removal of temporary traffic control devices. The PV shall consist of a work vehicle with approved flashing lights, a truck-mounted attenuator (TMA) with support structure designed for attaching the system to the work vehicle, and arrow panel (arrow mode for multilane roadways and caution mode on two-lane, two-way roadways) The work vehicle size and method of attachment shall be as specified in the TMA manufacture’s specification as tested under NCHRP Test Level 3.

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

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

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

Temporary traffic control devices to be used for lane/shoulder closure may be placed on the shoulder of the roadway by workers no earlier than 30 minutes prior to actual time lane/shoulder closure or restriction is permitted. Temporary traffic signs may be displayed to traffic at this time.

Workers shall not enter a lane open to traffic. Workers may be present on shoulders to prepare for lane closure setup no earlier than 30 minutes prior to actual time lane/shoulder closure or restriction is permitted.

All temporary lane or shoulder closures shall be restored at the end of the closure period and no travel lane shall be reduced to less than 10 ft. Prior to opening the closed lane or shoulder, the Contractor shall clear the lane or shoulder of all material, equipment, and debris.

Failure to restore full traffic capacity within the time specified will result in a deduction being assessed on the next progress estimate in conformance with the following. This is in addition to the requirements specified in TC-4.02.

<b>ELAPSED TIME, MINUTES</b>	<b>DEDUCTION</b>
1 - 5	\$ <u>50.00</u>
Over 5	\$ <u>50.00</u> per Minute (In addition to the Original 5 minutes)



**CATEGORY 100**  
**PRELIMINARY**

**SECTION 107 — CONSTRUCTION STAKEOUT**

**107.03 CONSTRUCTION.**

**107.03.04 Control Stakes.**

186 **ADD:** The following as the second paragraph.

The Engineer as specified in 107.03.01 will provide control stakes and preserve those stakes for the correct layout and inspection activities. When the Contractor utilizes construction equipment guided by Global Positioning System (GPS) and Robotic Total Station (RTS), the Contractor shall set additional stakes directed by the Engineer for horizontal and vertical controls as necessary for the correct layout and inspection of the work.

**107.03.08 Subgrade, Subbase and Base Controls.**

187 **ADD:** The following after the second paragraph.

(a) **Automated Machine Control.** The Contractor may elect to use construction equipment guided by a Global Positioning System (GPS) or Robotic Total Station (RTS) equipment in the placement of subgrade, subbase, base courses, and other roadway materials.

(1) The Contractor utilizing this approach shall develop and submit a Digital Terrain Model (DTM) to the Engineer for review. The Contractor using the Contract Documents and any Administration furnished DTM data, if available, shall independently develop the DTM. To use any Administration furnished DTM data, the Contractor shall release the Administration and its designers from all liability for the accuracy of the data and its conformance to the Contract Documents furnished by the Administration.

(2) The Contractor shall establish primary control points at appropriate intervals and at locations along the length of the project and outside the project limits and where project work is performed by the Contractor beyond the project limits as required at intervals not to exceed 1000 ft. The horizontal position of these points shall be determined by static GPS sessions or by traverse connection from the original base line control points. The elevation of these control points shall be established using differential leveling from the project benchmarks, forming closed loops where practical. A copy of all new control point information shall be provided to the Engineer prior to construction activities. The Contractor shall be responsible for all errors resulting from their efforts and shall correct the deficiencies to the satisfaction of the Engineer and at no additional cost to the Administration.



**SPECIAL PROVISIONS INSERT**  
107 — CONSTRUCTION STAKEOUT

CONTRACT NO. CH3505174  
2 of 2

- (3) The Contractor shall provide control points and conventional grade stakes at critical points such as, but not limited to, all PC's, PT's and super elevation points begin full super, half-level plane inclined, etc., along with other critical points required for the construction of structures and utility relocation or coordination. The Engineer will determine whether additional control points and stakeout are necessary.
- (4) The Contractor shall provide adequate control points, stationing and stakes for coordination activities involving environmental agencies, utility companies and Contractors on adjacent projects at no additional cost to the Administration.
- (b) **Real-Time Kinematic (RTK) GPS.** RTK GPS may be utilized to control equipment and shall be within tolerances of  $\pm 0.1$  ft.
- (c) **RTS Positioning.** RTS positioning shall be utilized where grade tolerances are less than  $\pm 0.1$  ft. The index error of the vertical circle of the RTS shall be checked and adjusted as necessary prior to each day's operations. Each work session shall begin and end by checking between adjacent control points.
- (d) **Grade Busts.** Grade busts and all associated quantity adjustments or errors resulting from the Contractor's activities shall be corrected by the Contractor to the satisfaction of the Engineer at no additional cost to the Administration.
- (e) **Utilizing Automated Controlled Equipment.** When the Contractor chooses to utilize automated controlled equipment, the Contractor shall furnish a GPS Rover instrument for Administration use during the project, along with 8 hours of formal training on GPS/RTS and the Contractor's systems. The Contractor shall provide a surveyor to perform verification when discrepancies arise.
- (f) **Test Sections.** The Contractor shall perform test sections with both GPS and RTS systems to demonstrate they have the capability, knowledge, equipment, and experience to properly operate the systems and achieve acceptable tolerances. If the Contractor fails to demonstrate this ability, the Contractor shall conform to the requirements for the conventional stakeout.

**CATEGORY 100**  
**PRELIMINARY**

**SECTION 111 — DIGITAL CAMERA**

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

**111.02 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.

**SPECIAL PROVISIONS**  
111 — DIGITAL CAMERA

CONTRACT NO. CH3505174  
2 of 2

**111.03 CONSTRUCTION.** Not applicable.



**CATEGORY 100  
PRELIMINARY****SECTION 112 — CRITICAL PATH METHOD PROJECT SCHEDULE  
DESIGN\_BUILD**

**112.01 DESCRIPTION.** This work shall consist of the Design-Build Firm planning, scheduling, and constructing the project by using a Critical Path Method Project Schedule (CPM). The CPM shall be used for coordinating and monitoring all the work specified in the Contract Documents including all activities of subcontractors, vendors, suppliers, utilities, railroads, the Administration, and all other parties associated with the construction of the Contract. All work including but not limited to submittals, major procurement, delivery, and construction activities shall be included. The CPM schedule shall be used for coordinating activities for both design and construction tasks by incorporating all activities into one CPM schedule. All work including but not limited to activities associated with design elements, milestones, permits, utility relocations, and submittals shall be represented by schedule activities. All appropriate schedule logic relationships between the design element activities and the corresponding construction activities shall be shown. The CPM shall be based upon the entirety of the Contract Documents. The software utilized for the CPM shall generate files that are compatible with Primavera Project Planner.

**Float.** The CPM utilizes float. Float is defined as the amount of time between when an activity “can start or finish” and when an activity “must start or finish”. Float is a shared commodity for the use of the Administration and the Design-Build Firm and is not for the exclusive use or benefit of either party. The parties have the full use of the float until it is depleted.

**Scheduling Representative.** The Design-Build Firm shall designate a scheduling representative, prior to submission of the Initial Critical Path Method Project Schedule (ICPM). The scheduling representative is the person primarily responsible for development and maintenance of the Design-Build Firm’s CPM schedule. The scheduling representative shall represent the Design-Build Firm in all matters regarding the schedule and shall attend all schedule related meetings. Replacement of the scheduling representative by the Design-Build Firm will require written approval from the Administration.

The Design-Build Firm shall submit the qualifications of the designated scheduling representative to the Administration for approval. This approval is required before the ICPM will be accepted. The designated scheduling representative shall have at least three years of verifiable experience for preparing and maintaining CPM project schedules on Contracts of the same or similar size and complexity.

**Initial Critical Path Method Project Schedule (ICPM).** The ICPM shall consist of:

- (a) A time scaled diagram. The ICPM time scaled diagram shall have a scale and format that is acceptable to the Engineer. The activities shall be labeled with the activity identification clearly shown for each activity. All relationships between activities shall be shown.

**(b)** Tabular reports with activities sorted as follows:

- (1)** Activity ID. This report shall include predecessors and successors for each activity with leads and lags shown.
- (2)** Activity ID. This report shall include resources. This report shall clearly define the resources assigned to each activity.
- (3)** Early Start, Total Float.
- (4)** Total Float, Early Start.
- (5)** Project Area (if applicable).
- (6)** Project Phase (if applicable).
- (7)** Responsibility, e.g., Design-Build Firm, Designer, specific subcontractor, specific supplier, the Administration, etc.
- (8)** Other activity codes as required by the Engineer.

The header of each tabular report shall include the project name, Contract number, data date, run date and number, and report type.

The body of each report shall include the activity identification, activity description, original and remaining duration, early/late start and finish dates, percent complete, actual start/finish dates, total float, and calendar designation for every activity.

- (c)** Written Narrative (WN). The WN shall comply with the requirements described hereinafter.
- (d)** Printed Calendars. The printed calendars shall include a listing, description, and calendar form tabulation of all calendars used in the ICPM. The calendars shall contain the total number of anticipated work days required to complete all the work required in the Contract. The calendars shall delineate the holidays and anticipated nonwork days or periods. An explanation of the Design-Build Firm's basis for determining each nonwork day or period shall be included in the WN.
- (e)** Data disc containing all of the information contained in the CPM. The format shall be compatible with Primavera Project Planner software.

All construction activities shall have durations not exceeding 10 working days, unless otherwise approved by the Engineer. Activities representing review and approval of construction submittals by the Administration shall be given a duration of not less than

**SPECIAL PROVISIONS**

112 — CPM PROJECT SCHEDULE DESIGN-BUILD

CONTRACT NO. CH3505174

3 of 7

30 calendar days. Activities representing review and approval of design submittals by the  
Administration shall be

**SPECIAL PROVISIONS**

112 — CPM PROJECT SCHEDULE DESIGN-BUILD

CONTRACT NO. CH3505174

4 of 7

given a duration of not less than 45 calendar days. The Design-Build Firm may submit a short list of highly critical approval activities to the Engineer. The Engineer will make every effort to expedite the approval of these submittals, however, this will not alter the requirements to include 30 calendar days for approval of construction activities and 45 calendar days for approval of design activities in the ICPM. Activities for curing, pre-load, etc. shall be scheduled in calendar days. Durations for procurement activities will be evaluated on a case by case basis.

The latest calculated early finish date in the ICPM shall equal the Contract calendar date for completion specified in the Contract Documents. If the Design-Build Firm submits an earlier completion date than specified in the Contract Documents, the Administration, upon acceptance of the ICPM, will issue a change order to adjust the Contract time to the completion date shown on the ICPM.

The Design-Build Firm shall resource load all construction activities in its schedule with the material, equipment, and manpower planned to be utilized by the Design-Build Firm and its subcontractors in accomplishing each activity. Resource loading of the CPM shall be fully explained in the WN.

The Engineer reserves the right to specify the number of activities and to require at any time additional breakdown of the activities.

The Design-Build Firm shall utilize activity codes to categorize activities by at least the following: project area; construction phase; design phase, and responsibility, e.g. Design-Build Firm or specific subcontractor.

The Design-Build Firm shall provide a WN as part of the ICPM. This WN shall explain the sequence of work, the critical path, interim completion dates, project phasing, nonwork days or periods, maintenance of traffic, and labor and equipment resources. In addition, the Design-Build Firm shall explain how it has provided for permit requirements, environmental requirements, coordination with other public contractors, milestone dates (for the Contract or other related contracts), coordination with other entities, coordination with all utility companies, special nonwork days or periods, and weather in its ICPM. The WN shall be used to explain the specific scope of each activity and the basis used to determine the original duration of each activity, i.e., production rates and anticipated quantities. All activities quantified in the Contract Documents shall be addressed in the WN. The Design-Build Firm shall utilize the WN to explain the following:

- (a) Relationships between activities not obviously identified.
- (b) Equipment usage and limitations.
- (c) Manpower usage and limitations.
- (d) Use of additional shifts and overtime.

- (e) Activity codes, abbreviations, and activity identification system.
- (f) All calendars utilized in the CPM.
- (g) Date or time constraints.
- (h) All abbreviations in the ICPM.
- (i) Use of calendars.
- (j) Scheduling of weather and temperature sensitive activities.
- (k) Design phases/milestone dates.

The Design-Build Firm shall complete and submit the proposed ICPM within 30 calendar days after receiving the Notice of Award and submit five sets of all information required to the Engineer for review and acceptance. No work shall begin until the Engineer has accepted the ICPM. Upon issuance of the Notice to Proceed, the start date utilized in the ICPM shall be adjusted to comply with the Notice to Proceed.

The Engineer will complete the review of the Design-Build Firm's ICPM schedule within 30 calendar days after the submittal. If required, the Engineer will convene a Joint Review Conference at which time the Engineer and Design-Build Firm may make corrections and adjustments to the proposed ICPM. If a revision is necessary due to the Engineer's review or the Joint Review Conference, the proposed revision shall be submitted by the Design-Build Firm within seven calendar days after the Design-Build Firm receives the Engineer's review comments or within seven calendar days after the date of the Joint Review Conference whichever is the latest. Revisions shall conform to the requirements for the ICPM. The Engineer will respond to the revised ICPM within seven calendar days after the revised ICPM is received.

Any delay in starting work caused by the acceptance of the ICPM by the Engineer will not be considered as a basis for any adjustment in the Contract amount or time.

When the Engineer notifies the Design-Build Firm that the ICPM has been accepted, that document will become the CPM of record. The Design-Build Firm shall be responsible for implementing and executing the work specified in the Contract in strict conformance with the CPM of record. The CPM of record shall be the Design-Build Firm's work plan for completing the entire Contract as specified in the Contract Documents.

Failure of the Design-Build Firm to adhere to the CPM of record will be cause for the Administration to deny any and all requests for additional compensation or extensions of the Contract duration and may result in the Engineer withholding pay estimates.

**SPECIAL PROVISIONS**

112 — CPM PROJECT SCHEDULE DESIGN-BUILD

CONTRACT NO. CH3505174

6 of 7

**CPM Updates.** Monthly updates of the CPM of record are required. CPM update submissions shall contain the activity data as specified in (a) through (e) of the ICPM. The update shall be used to describe the progress of the project to date. The WN shall include a description of the work performed during the update periods, current critical path, the amount of float on the critical path, any delays or disruptions experienced by the Design-Build Firm during the period of the update, any change in manpower or equipment, and any potential delays or disruptions.

The Design-Build Firm's scheduling representative and the Engineer shall meet to review, mutually agree to, and sign-off on the information required to update (actual start and finish dates, remaining durations, and percentages complete) the schedule. The Design-Build Firm shall use an update form acceptable to the Engineer. The data date for each update shall be seven days prior to the cut-off date of the pay estimate for that month. The update shall be submitted by the Design-Build Firm within seven calendar days from the data date. Failure to timely submit the update, may result in the Engineer withholding pay estimates. Upon acceptance by the Engineer, the update shall become the CPM of record for the period between its data date and the data date of the next approved update or revision.

Updates shall not include any revision to the CPM, unless prior approval by the Engineer is received for the insertion of minor revisions.

**Revisions to the Schedule of Record.** Revisions are defined as one or more of the following:

- (a) A change in the original duration of an activity.
- (b) A change in the logic of the schedule.
- (c) A change in the calendars or to the calendar to which an activity is assigned.
- (d) A change to resources.
- (e) A change to any actual date, previously established.
- (f) The deletion or addition of an activity.
- (g) A change to, addition of, or deletion of a date or time constraint.
- (h) A change to, addition of, or deletion of an activity code.
- (i) A change to an activity description.
- (j) Any change other than updating an activity.

When the Design-Build Firm proposes to make a revision to the CPM, the Design-Build Firm shall verbally discuss the proposed revision with the Engineer. If the revision is minor in nature, the Engineer may allow the Design-Build Firm to include the revision on the next Update of the

## **SPECIAL PROVISIONS**

112 — CPM PROJECT SCHEDULE DESIGN-BUILD

CONTRACT NO. CH3505174

7 of 7

CPM. If the Engineer determines that the revision is not minor in nature, the Design-Build Firm shall submit the proposed revision to the Engineer for review and approval prior to deviating from the approved CPM.

When the Design-Build Firm is required to make a revision to the CPM due to changes in the Contract initiated by the Engineer, the Design-Build Firm shall immediately contact the Engineer to discuss the changes. If the revision is minor in nature, the Engineer may allow the Design-Build Firm to include the revision on the next Update of the CPM. If the Engineer determines that the revision is not minor in nature, the Design-Build Firm shall submit the proposed revision to the Engineer for review and approval prior to deviating from the approved CPM.

The Engineer may allow the Design-Build Firm to deviate from the approved CPM for specific mitigating activities.

The proposed revision shall be submitted to the Engineer in the same format and with the same requirements used for the ICPM. The proposed revision shall be made to the CPM of record at the time the revision is made, i.e. the revision shall include all update information and revisions previously approved and the additional progress to the date of the revision. The WN accompanying the proposed revision shall describe the reason for the revision, the resulting critical path, and all particulars of the revision. These shall include, but not be limited to, changes in the method or manner of the work, changes in design phases, changes in specifications, changes in resources, addition or deletion of work, increased or decreased quantities, defective work, and acceleration of the work.

The Engineer will review and respond to the Design-Build Firm's proposed revision within 14 calendar days after its receipt. Resubmittal by the Design-Build Firm, if required, shall be made within seven calendar days after receipt of the Engineer's review comments. The Administration reserves the right to reject any proposed revision, which adversely impacts the Administration, utilities, or other concerned parties.

**Extensions of Contract Time or Incentive/Disincentive Date.** All requests for an extension of Contract time shall be made in writing and are subject to the notice and timeliness of submission provisions as provided for elsewhere in the Contract. Any written request for an extension of Contract time or change in an incentive/disincentive date will be evaluated by the Engineer's analysis of the CPM of record and a proposed revision submitted by the Design-Build Firm. The request shall include a WN of the events, which would require an extension of the Contract time or incentive/disincentive date.

Only delays to activities which affect the Contract completion date or incentive/disincentive date will be considered for an extension of Contract time. The extension of the specified Contract completion date or incentive/disincentive date will be based upon the number of calendar days the Contract completion date or incentive/disincentive date is impacted as determined by the Engineer's analysis.

**SPECIAL PROVISIONS**

112 — CPM PROJECT SCHEDULE DESIGN-BUILD

CONTRACT NO. CH3505174

8 of 7

When the Design-Build Firm fails to submit an acceptable Update or Revision within the time limits prescribed above, the Engineer may withhold pay estimates until an acceptable Update or Revision is submitted.

**112.02 MATERIALS.** Not Applicable.

**112.03 CONSTRUCTION.** Not Applicable.



**CATEGORY 200**  
**GRADING**

**SECTION 203 — BORROW EXCAVATION**

**203.01.02 Notice to Contractor —Borrow Pits.**

212 **ADD:** After the first paragraph.

This project is located in Fill in blank (use drop-down). The following conditions applicable to the county or city shall be complied with and documented.

**DISTRICT 1**

Dorchester (DO) County

Site plan approved by Soil Conservation District.  
Grading permit from County Highway Department (except City of Cambridge).  
Planning and Zoning approval for use.  
Critical Areas approval (if applicable).  
Inspection by County.

Somerset (SO) County

Site plan approved by Soil Conservation District.  
Grading Permit from the County.  
Land Use permit.  
Critical Areas approval by Planning and Zoning (if applicable).  
Inspection by SHA.

Wicomico (WI) County

Site plan approved by Soil Conservation District.  
Certificate of compliance with Planning and Zoning if located in Critical Area.  
Inspection by SHA.

Worcester (WO) County

Site plan approved by Soil Conservation District.  
Critical areas approved by Planning and Zoning (if applicable).  
Inspection by SHA.

**DISTRICT 2**

Caroline (CO), Cecil (CE), Queen Anne's (QA) and  
Talbot (TA) Counties

Site plan approved by Soil Conservation District.  
Planning and Zoning approval.  
Critical Areas approval (if applicable).  
Inspection by SHA.

Kent (KE) County

Site plan approved by Soil Conservation District.  
Grading permit.  
Planning and Zoning approval.  
Critical Areas approval (if applicable).  
Inspection by SHA.

**DISTRICT 3**

Montgomery (MO) County

Sediment control permit and plan approval by County  
Department of Environmental Protection, Division of  
Water Resources Management, Storm Water Management Section/Sediment  
Control.

Approval by Maryland National Capital Park and Planning Commission (if  
applicable).

Inspection by County.

Prince Georges (PG) County

Site Plan approved by Soil Conservation District.

County Grading Permit.

Tree conservation plan approval by Maryland National Capital Park and  
Planning Commission (if applicable).

Critical Areas approval (if applicable).

Payment of all pertinent county fees and/or securing of county required bonding.

Inspection by SHA with oversight by County.

**DISTRICT 4**

Baltimore (BA) County

Site Plan approved by the Department of Environmental Protection and the Soil  
Conservation District.

County Grading Permit.

Critical Areas approval by the Department of Environmental Protection and  
Resource Management (if applicable).

Inspection by County.

Harford (HA) County

Site Plan approved by Soil Conservation District.

County Grading Permit.

Critical Areas approval (if applicable).

Inspection by County.

**DISTRICT 5**

Anne Arundel (AA) County

Site Plan approved by Soil Conservation District.

Planning and zoning approval - special exception required.

Grading plan issued by the County Department of Inspections and Permits.

Critical Areas approval (if applicable).

Inspection by County and SHA.

Calvert (CA) County

Site Plan approved by Soil Conservation District.

Grading plan issued by the County after a mining permit or exemption is issued.

Critical Areas approval (if applicable).

Inspection by SHA.

**SPECIAL PROVISIONS**  
**203 — BORROW EXCAVATION**

CONTRACT NO. CH3505174  
3 of 3

Charles (CH) County  
Site Plan approved by Soil Conservation District.  
Special exception granted by the County.  
Critical Areas approval (if applicable).  
Inspection by SHA.

St. Marys (SM) County  
Site Plan approved by Soil Conservation District.  
County Grading Permit.  
Critical Areas approval (if applicable).  
Inspection by SHA.

**DISTRICT 6**

Allegany (AL) County  
Site plan approved by Soil Conservation District.  
Informational copy of plans to County Planning and Zoning Commission.  
Inspection by SHA.

Garrett (GA) and Washington (WA) Counties  
Site plan approval by Soil Conservation District.  
Inspection by SHA.

**DISTRICT 7**

Carroll (CL) County  
Site plan approved by County Planning Commission.  
Sediment control plan approval by Soil Conservation District.  
County Grading Permit.  
Inspection by County.

Frederick (FR) County  
Site plan approved by Soil Conservation District.  
County Grading Permit.  
Inspection by SHA.

Howard (HO) County  
Site Plan approved by Soil Conservation District.  
County Grading Permit.  
Inspection by County.

**BALTIMORE CITY (BC)**

Site plan approved Baltimore City Department of Public Works (BCDPW).  
Inspection by BCDPW.

**STATE AND FEDERAL PROPERTY**

Borrow pits located on state and federal property are subject to Maryland Department of the Environment approval.  
Inspection by SHA.



**SPECIAL PROVISIONS INSERT**  
**303 — PIPE CULVERTS**

CONTRACT NO. CH3505174  
1 of 1

**CATEGORY 300**  
**DRAINAGE**

**SECTION 303 — PIPE CULVERTS**

228 **DELETE:** 303.01 DESCRIPTION in its entirety.

**INSERT:** The following.

**303.01 DESCRIPTION.** This work shall consist of placing the size and type of pipe on a firm bed to the specified line and grade; including all pipe connections to existing pipes, inlets, end walls, or manholes; and cleaning the existing pipes as specified in the Contract Documents or as directed by the Engineer.

**303.03 CONSTRUCTION.**

**303.03.04 Joints.**

229 **DELETE:** Metal Pipe in its entirety.

**INSERT:** The following.

**Metal Pipe.** Joints shall be butted and sealed with rubber gaskets and the sections joined with approved coupling bands conforming to 905.01.

**DELETE:** 303.03.05 Pipe Connections in its entirety.

**INSERT:** The following.

**303.03.05 Pipe Connections.** Pipe connections may be either prefabricated or constructed in the field. A field pipe connection shall include cutting a hole in one pipe, inserting and trimming the connecting pipe, and placing a concrete collar using Concrete Mix No. 2 at the connection. In the case of corrugated pipes, a welded connection may be substituted for the concrete collar. The weld shall be coated with a zinc-rich paint coating in conformance with M 36. Refer to 305.03.03 for pipe connections to drainage structures.



**SPECIAL PROVISIONS INSERT**

308 — EROSION AND SEDIMENT CONTROL

CONTRACT NO. CH3505174

1 of 7

**CATEGORY 300  
DRAINAGE**

**SECTION 308 — EROSION AND SEDIMENT  
CONTROL**

**308.01 DESCRIPTION.**

242 **DELETE:** The third paragraph, “The Contractor shall...Control Manager (ESCM).”

242 **DELETE:** 308.01.01 Standards and Specifications in its entirety.

243 **DELETE:** 308.01.02 Quality Assurance Ratings in its entirety.

**INSERT:** The following.

**308.01.01 Erosion and Sediment Control Manager.** Prior to beginning any work, the Contractor shall assign an employee to the project to serve in the capacity of Erosion and Sediment Control Manager (ESCM). The ESCM and the superintendent shall have successfully completed the Administration’s Erosion and Sediment Control Certification Training for Contractors and Inspectors. This certification shall be current at all times. If the certification is expired or revoked for either person, the Contractor shall immediately replace the person with an appropriately certified person acceptable to the Administration. No work may proceed without the appropriate certified personnel in place.

**308.01.02 Standards and Specifications.** Erosion and sediment control measures shall be constructed and maintained in accordance with the latest Maryland Department of the Environment (MDE) Erosion and Sediment Control and Stormwater Management regulations, “Maryland Standards and Specifications for Soil Erosion and Sediment Control”, “Maryland Stormwater Design Manual, Volumes I and II”, “SHA Field Guide for Erosion and Sediment Control”, and as specified in the Contract Documents. The Contractor shall keep a copy of the latest MDE Standards and Specifications for Soil Erosion and Sediment Control on the site at all times. Where details differ from the MDE Standards and Specifications and the SHA Field Guide, use the details from then Field Guide.

**308.01.03 Quality Assurance Ratings.** All Administration projects requiring Erosion and Sediment Control measures will be inspected by a Quality Assurance Inspector to ensure compliance with the approved Erosion and Sediment Control Plan. Projects will be inspected at least every 2 weeks and the scores reported on Form No. OOC61, Erosion and Sediment Control Field Investigation Report.



**SPECIAL PROVISIONS INSERT**

**308 — EROSION AND SEDIMENT CONTROL**

CONTRACT NO. CH3505174

2 of 7

The Quality Assurance Inspector will use the scores to determine the following ratings:

<b>RATING</b>	<b>SCORE</b>
A	≥ 90
B	80 - 89.9
C	70 - 79.9
D	60 - 69.9
F	< 60

**Rating A.** The project is in compliance. Minor corrective action may be necessary.

**Rating B.** The project is in compliance; however, corrective action is needed

**Rating C.** The project is in compliance; however, deficiencies noted require correction. Shutdown conditions as described elsewhere herein could arise quickly. Project will be reinspected within 72 hours.

**Rating D.** The project is in non-compliance. The Administration will shut down all earthwork operations. All work efforts shall focus on correcting erosion and sediment control deficiencies. The project will be reinspected within 72 hours. All required corrective actions shall be completed within the 72 hour period for the project to be upgraded to a 'B' rating. Failure to upgrade the project from a 'D' rating to a 'B' or better rating will result in the project being rated an 'F'. Liquidated damages will be imposed for each day the project has a 'D' rating. Refer to Shutdowns herein for additional requirements.

**Rating F.** The project is in non-compliance. A 'F' rating indicates a score less than 60, or that the appropriate permits and approvals have not been obtained, or that limit of disturbance has been exceeded, or that wetlands, wetland buffers, jurisdictional waters, floodplains, and tree protection areas as specified in Section 107 have been encroached upon or that work is not proceeding in conformance with the approved Erosion and Sediment Control Plan and schedules. The Administration will shut down the entire project until the project receives a 'B' or better rating. All work efforts shall focus on correcting erosion and sediment control deficiencies. Liquidated damages will be imposed for each day the project has an 'F' rating.

**Shutdowns.** If a project receives a 'C' rating, the Contractor shall correct all deficiencies within 72 hours. The project will be reinspected at the end of this period. If it is found that the deficiencies have not been satisfactorily corrected, a 'D' rating will be given and all earthwork operations will be shut down until the project receives a 'B' or better rating.

If consecutive 'C' ratings are received, the Contractor will be alerted that their overall effort is marginal and a shut down of all earthwork operations is imminent if erosion and sediment control efforts do not substantially improve within the next 72 hours. The project will be reinspected at the end of this period.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

308 — EROSION AND SEDIMENT CONTROL

3 of 7

If the deficiencies have not been satisfactorily corrected or other deficiencies are identified by the Quality Assurance Inspector that results in a score of less than 80 and not below 60 on Form No. OOC61, a 'D' rating will be given and all earthwork operations will be shut down until the project receives a 'B' or better rating.

If disregard for correcting these deficiencies is evident, an 'F' rating will be given and the entire project will be shut down until the project receives a 'B' or better rating. When degradation to a resource could occur, or if the Contractor is unresponsive to direction to take corrective action, the Administration may elect to have these corrective actions performed by another contractor or by Administration maintenance staff. All costs associated with this work will be billed to the original Contractor in addition to liquidated damages.

**Incentive Payments.** When specified in the Contract Documents, the Administration may include incentive payments to the Contractor. Starting at the Notice to Proceed, an Incentive Payment will be made for a rating quarter consisting of 3 months when; at least four inspections were performed by the Quality Assurance Inspector and an average score equal to or greater than 85.0 for the entire rating quarter is given to the project by the Quality Assurance Inspector the quarterly incentive payment will be made to the Contractor within 60 days after the end of the rating quarter. No incentive will be paid for partial quarters or for quarters with less than four inspections. No incentives will be paid for any quarter in which a 'D' or 'F' rating is received. A rating quarter consists of three months. The first quarter begins at the Notice to Proceed. When a project does not receive any 'D' or 'F' ratings and the overall average score given to the project by the Quality Assurance Inspector is equal to or greater than 85.0 the final incentive payment will be made to the Contractor at final project close-out. If a time extension is granted to the Contract, additional quarterly incentive payments will be drawn from the final incentive payment.

**Liquidated Damages.** When a project is rated 'D' for any inspection; the Administration will assess liquidated damages on the Contractor. Payment of the liquidated damages shall be made within thirty days from the date of notification to the Contractor Payments shall not be allowed to accrue for consideration at final project close-out.

When the project receives two 'F' ratings the Erosion and Sediment Control Training Certificate issued by the Administration shall be revoked from the project superintendent and the Erosion and Sediment Control Manager for a period of not less than six months and until successful completion of the Administration's Erosion and Sediment Control Certification Program. Neither the project superintendent nor the Erosion and Sediment Control Manager shall be allowed to oversee the installation and maintenance of erosion and sediment controls during the period the certification is revoked on any project of the Administration. The Contractor shall immediately provide certified personnel to replace the project superintendent and the Erosion and Sediment Control Manager. Work may not commence until the certified personnel are in place.

**308.01.04 Incentive/Liquidated Damages Payments.** The Contract Documents will specify the amounts of incentive payments and liquidated damages that apply for each project.



**SPECIAL PROVISIONS INSERT**  
308 — EROSION AND SEDIMENT CONTROL

CONTRACT NO. CH3505174  
4 of 7

**308.03 CONSTRUCTION.**

245 **DELETE:** 308.03.01 Contractor Responsibilities its entirety.

**INSERT:** The following.

**308.03.01 Contractor Responsibilities.** Prior to beginning any earth disturbing activity, the Contractor shall:

- (a) Demarcate all wetlands, wetland buffers, floodplains, tree protection areas, and the Limit of Disturbance (LOD) as specified in Section 107.
- (b) Have all demarcated wetlands, wetland buffers, floodplains, tree protection areas, and LOD inspected and approved by the Engineer.
- (c) Construct all erosion and sediment control measures in conformance with 308.01.02.
- (d) Have all control measures inspected and approved by the Engineer.

All runoff from disturbed areas shall be directed to the sediment control measures. Ensure that dewatering practices do not cause any visible change to stream clarity.

No erosion or sediment control measure shall be removed without the approval of the Engineer and MDE. Refer to GP-7.12 for unforeseen conditions.

It is the Contractor's responsibility to ensure that dewatering practices do not cause any visible change to stream clarity.

246 **DELETE:** 308.03.04 Schedule in its entirety.

**INSERT:** The following.

**308.03.04 Schedule.** Within 14 days after the Notice of Award, the Contractor shall submit an Erosion and Sediment Control Schedule to implement the E & S Plan to the Administration and the MDE. The schedule shall indicate the sequence of construction, implementation and maintenance of controls, temporary and permanent stabilization, and the various stages of earth disturbance. After the schedule is approved by the Administration, it will be forwarded to MDE for approval. The schedule shall, at least include the following:

- (a) Demarcation of all wetlands, wetland buffers, floodplains, tree protection areas, and the LOD prior to any earth disturbing activity.
- (b) Clearing and grubbing of areas necessary for installation of perimeter controls specified in the Contract Documents.





**SPECIAL PROVISIONS INSERT**

**308 — EROSION AND SEDIMENT CONTROL**

CONTRACT NO. CH3505174

5 of 7

- (c) Construction of perimeter controls specified in the Contract Documents.
- (d) Remaining clearing and grubbing.
- (e) Roadway grading (including off-site work).
- (f) If applicable, utility installation and whether storm drains shall be used or blocked after construction.
- (g) Final grading, landscaping, and stabilization.
- (h) Removal of perimeter controls.

No work shall be started on-site or off-site until the Erosion and Sediment Control schedules and methods of operation have been accepted by the Administration and MDE.

248 **INSERT:** The following after **308.03.08 Stabilization Requirements.**

**308.03.08a Dewatering.** Dewatering is considered an elective practice. Dewatering activities shall not cause any visible change to stream clarity. If a sediment plume is visible, the Contractor shall immediately cease the dewatering activity.

**303.03.13 Removal of Controls.**

249 **DELETE:** The second paragraph “All control devices shall be ....”

**INSERT:** The following.

All control devices shall be removed, except as specified in the contract documents.

**308.03.19 Pipe Slope Drain.**

250 **DELETE:** The second sentence “The geotextile apron shall be ....”

**INSERT:** The following.

The geotextile apron shall be keyed 6 in. into the ground.

**308.03.27 Portable Sediment Tank.**

251 **INSERT:** After the second sentence the following.

The Contractor shall locate and operate portable sediment tanks in a manner that results in no visible sediment release to waterways. If there is any change to waterway clarity due to dewatering operations the contractor shall immediately cease the operation until an acceptable alternative is found.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

308 — EROSION AND SEDIMENT CONTROL

6 of 7

**DELETE:** 308.03.28 Silt Fence in its entirety.

**INSERT:** The following.

**308.03.28 Silt Fence.** The geotextile shall be embedded a minimum of 8 in. vertically into the ground and extend a minimum of 22 in. above ground. The fence post shall be driven a minimum 16 in. into the ground and extend a minimum 26 in. above the ground.

Silt fence shall be removed and reset when and as directed by the Engineer. All of the requirements for the original placement of the silt fence shall be strictly adhered to when the fence is reset.

**308.03.31 Super Silt Fence**

**INSERT:** The following after subsection (b).

(c) Posts are to be line posts only.

(d) A 7 gage top tension wire shall run continuously between line posts.

**308.03.35 Maintenance of Stream Flow.**

253 **ADD:** The following after the second paragraph "Upon completion of...to the Engineer."

The Contract Documents may include stream diversion details for maintenance of stream flow. These details show the locations of the stream diversion system and a system that is approved by the Maryland Department of the Environment.

The Contractor is alerted that the stream diversion system as shown may not be capable of blocking the flow of water through the soil beneath the stream diversion system. The Contractor shall be responsible for designing and providing an effective means of diverting the water away from the designated areas, even though it may require more elaborate diversion systems. The Contractor shall also ensure that all excavation within the stream diversion area shall be maintained in a dewatered condition, which may require additional pumps, sheeting, shoring, cofferdams, etc. Should the proposed system not perform satisfactorily or additional material and equipment be required to dewater the site and excavated areas, the Contractor shall remedy the stream diversion system at no additional cost to the Administration.

The Contractor shall securely anchor the stream diversion system in place to prevent movement during high water events. Prior to placing the stream diversion system, the Contractor shall submit the proposed method of anchoring to the Engineer and the MDE

field inspector for approval. Anchors shall not go beyond the limits of disturbance shown on the Plans or infringe on the channel area available for stream flow. Placing the stream diversion system in the stream without the approval of both the Engineer and the MDE inspector is prohibited. All cost associated with the anchoring of the stream diversion system shall be incidental to the Maintenance of Stream Flow item.



**SPECIAL PROVISIONS INSERT**

**308 — EROSION AND SEDIMENT CONTROL**

CONTRACT NO. CH3505174

7 of 7

The Contractor shall have the option of proposing an alternate stream diversion system. All conditions stated in the Contract Documents shall apply to the alternate stream diversion system. Any alternate stream diversion system shall be submitted to the Maryland Department of the Environment through the Administration for approval prior to implementation.

255 **INSERT:** The following.

**308.03.36 Diversion Fence.**

The double 6 mil polyethylene sheeting shall be trenched a minimum of 6 in. into the ground, shall cover a minimum of 4 ft. from the trench line to the fence posts, shall extend a minimum of 20 in. above the ground, and shall wrap over the fence posts to grade.

**308.03.37 Temporary Gabion Outlet Structure.**

Gabions shall be constructed in conformance with Section 313. The area beneath shall be graded and stabilized immediately after the removal of temporary gabion outlet structures.

**308.03.38 Dewatering Bag.** The Contractor shall furnish the required bags, straw bales, pump, hoses, and connections to adequately dewater the construction site for construction activities. The dimensions of the dewatering bags shall be determined by the Contractor to provide adequate volume for the associated pump discharge and the soil conditions. The Contractor shall locate and operate dewatering bags in a manner that results in no visible sediment release to waterways. If there is any change to waterway clarity due to dewatering operations the contractor shall immediately cease the operation until an acceptable alternative is found.

**CATEGORY 300  
DRAINAGE**

**SECTION 308 — EROSION AND SEDIMENT  
CONTROL**

**308.01 DESCRIPTION.**

242 **DELETE:** The third paragraph, “The Contractor shall...Control Manager (ESCM).”

**INSERT:** The following.

The Contractor shall assign an employee to the project to serve in the capacity of Erosion and Sediment Control Manager (ESCM). The ESCM and the superintendent shall have successfully completed the Administration’s Erosion and Sediment Control Certification Training for Contractors and Inspectors. This certification shall be current at all times. If the certification is expired or revoked for either person, the Contractor shall immediately replace the person with an appropriately certified person acceptable to the Administration.

**ADD:** The following after the third paragraph.

**General Notes.**

(a) **MDE Notification.** If an Erosion and Sediment Control Permit is issued for this project, the Contractor or the Administration shall notify MDE in writing or by telephone (410) 537-3510 at the following points:

- (1) Pre-construction meeting.
- (2) Erosion and sediment control meeting (minimum 7 working days prior to commencing earth disturbing activities).
- (3) Following installation of initial sediment control measures.
- (4) During installation of major sediment control basins/traps.
- (5) Prior to removal or modification of any sediment control structures.
- (6) Prior to removal of all sediment control devices.
- (7) Prior to final acceptance by the Administration.

(b) **Ingress/Egress Controls.** The Contractor shall protect all points of construction ingress and egress to prevent the deposition of materials on public roads. All materials deposited on public roads shall be mechanically removed immediately. The flushing of road surfaces is prohibited.

Typically, all ingress and egress points shall be controlled through the use of a stabilized construction entrance conforming to 308.03.30.

(c) **Inspection.** The Contractor shall inspect daily and maintain continuously in an effective operating condition all erosion and sediment control measures.

- (d) **Shutdowns and/or Penalties.** Total compliance with the approved erosion and sediment control plan is expected at all times. In cases where the Contractor is found to be in noncompliance the Administration may take steps to impose selected or total shutdowns and impose per day penalties for noncompliance.

The District Engineer may impose a total or partial shutdown if the project may adversely impact the waters of the State.

- (e) **Record Keeping.** The project's approval letter, approved erosion and sediment control plans, approved change requests, daily log books and test reports shall be available at the site for inspection by duly authorized officials of MDE.
- (f) **Erosion and Sediment Control Excavation.** Silt removed from control devices shall be placed in an approved waste site either on or off the project. Material stored on site may be reused once it is dried and if it conforms to the Administration's requirements for embankment or any unspecified need.
- (g) **Off-Site Utility Work.** Sediment control for utility construction in areas outside of designed controls shall follow these additional best management practices:
- (1) Call "Miss Utility" at 1-800-257-7777 48 hours prior to the start of work.
  - (2) Excavated material shall be placed on the high side of the trench.
  - (3) Trenches for utility installations shall be backfilled, compacted and stabilized at the end of each working day. When this is not possible, the area shall conform to (4).
  - (4) Temporary silt fences shall be placed immediately downstream of any disturbed area intended to remain disturbed for more than one day.
- (h) **Sensitive Areas.** No construction activities shall be undertaken within specified sensitive areas of the project without prior notification of the Engineer. All work in these areas shall be monitored by a responsible party designated by the Contractor to assure that reasonable care is taken in or adjacent to these areas. Areas considered sensitive are defined as: floodplains, wetlands (tidal, nontidal and associated buffers) critical areas, forested areas, archeological sites, historic sites, parkland, and open water.
- (i) **Standard Stabilization Note.** Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within seven (7) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1); and fourteen days (14) as to all other disturbed or graded areas on the project site.

**(j) Site Information (Not for Bidding Purposes).**

(1) Total Area of Site	N/A
(2) Area disturbed	N/A
(3) Area to be Roofed or Paved	N/A
(4) Total cut	Not Provided
(5) Total fill	Not Provided
(6) Off-site waste/borrow area location (if known)	Not Provided

**(k) Incremental Stabilization.** Refer to the current Maryland Standards and Specifications for Soil Erosion and Sediment Control for the incremental stabilization of cuts and fills.

**(l) Disturbed Areas.** Excavated trench material for any storm drain pipe and underdrain pipe installation shall be placed on the high side of the trench. Trenches for any storm drain pipe and underdrain pipe installations shall be backfilled, compacted, and stabilized at the end of each working day.

All other disturbed areas shall also be stabilized at the end of the working day. Any areas that cannot be stabilized at the end of the work day are to have silt fence placed downgrade of them such that all runoff from the disturbed area will be filtered.

**(m) Additional Controls.** The MDE Inspector or the Administration's Engineer may require additional controls. In that event, the Contractor shall inspect daily and maintain continuously in an effective operating condition all erosion and sediment control measures until they are removed with prior permission from MDE and the Administration. Prior to the removal of sediment control measures, the Contractor shall have established permanent stabilization for all contributory disturbed areas.

Any areas disturbed by the removal of sediment control measures shall be immediately stabilized.

**(n) Notice of Enforcement.** Sediment and erosion control regulations shall be strictly enforced during construction.

**DELETE:** 308.01.01 Standards and Specifications in its entirety.

**INSERT:** The following.

**308.01.01 Standards and Specifications.** The plans are designed and shall be constructed in accordance with the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control, the 2000 Maryland Stormwater Design Manual, Volumes I and II and the Maryland Department of the Environment Erosion and Sediment Control and Stormwater Management regulations and all revisions thereof, and as specified in the Contract Documents. The Contractor shall keep a copy of the latest MDE Standards and Specifications for Soil Erosion and Sediment Control on the site at all times.

243 **DELETE:** 308.01.02 Quality Assurance Ratings in its entirety.

**INSERT:** The following.

**308.01.02 Quality Assurance Ratings.** All Administration projects requiring Erosion and Sediment Control measures will be inspected by a Quality Assurance Inspector to ensure compliance with the approved Erosion and Sediment Control Plan. The Contractor shall obtain all appropriate permits and approvals; demarcate Limits of Disturbances, wetland and wetland buffers, floodplains and tree protection areas as specified in Section 107; and shall proceed in conformance with the approved Erosion and Sediment Control Plan and schedules. Projects will be inspected at least every 2 weeks and the scores reported on Form No. OOC61, Erosion and Sediment Control Field Investigation report. The Quality Assurance Inspector will use the scores to determine the following ratings:

RATING	SCORE
A	$\geq 90$
B	80 - 89.9
C	70 - 79.9
D	60 - 69.9
F	$< 60$

**Rating A.** The project is in compliance. Minor corrective action may be necessary.

**Rating B.** Indicates that the project is in compliance; however, corrective action is needed

**Rating C.** Indicates that the project is in compliance; however, deficiencies noted require correction. Shutdown conditions as described elsewhere herein could arise quickly. Project will be reinspected within 72 hours.

**Rating D.** Indicates that the project is in noncompliance. The Administration will shut down all earthwork operations. All work efforts shall focus on correcting erosion and sediment control deficiencies. The project will be reinspected within 72 hours. All required corrective actions shall be completed within the 72 hour period for the project to be upgraded to a 'B' rating. Failure to upgrade the project to a 'B' rating will result in the project being rated an 'F'. Liquidated damages will be imposed for each day the project has a 'D' rating. Refer to Shutdowns elsewhere in this Specification for additional requirements.

**Rating F.** Indicates a score less than 60 or the appropriate permits and approvals have not been obtained; demarcated limits of disturbances, wetland and wetland buffers, floodplains, and tree protection areas as specified in Section 107; or is not proceeding in conformance with the approved Erosion and Sediment Control Plan and schedules. An 'F' rating indicates that the project is in noncompliance. The Administration will shut down the entire project until the project receives a 'B' rating. All work efforts shall focus on correcting erosion and sediment control deficiencies. Liquidated damages will be imposed for each day the project has an 'F' rating.

**Shutdowns.** When a 'C' rating is given to a project, the Contractor shall have all deficiencies corrected within 72 hours. The project will be reinspected at the end of this period. If it is found that the deficiencies have not been satisfactorily corrected, a 'D'

rating will be given and all earthwork operations will be shut down until the project receives a 'B' rating.

When a consecutive 'C' rating is given for other deficiencies and the original deficiencies were corrected, the Contractor will be alerted that their overall effort is marginal and a shut down of all earthwork operations is imminent if erosion and sediment control efforts do not substantially improve within 72 hours. The project will be reinspected at the end of this period. If it is found that the deficiencies have not been satisfactorily corrected or other deficiencies are identified by the Quality Assurance Inspector that results in a score of less than 80 on Form No. OOC61, a 'D' rating will be given and all earthwork operations will be shut down until the project receives a 'B' rating.

When a disregard for correcting these deficiencies is evident, an 'F' rating will be given and the entire project will be shut down until the project receives a 'B' rating. When degradation to a resource could occur, or if the Contractor is unresponsive to direction to take corrective action, the Administration may elect to have these corrective actions performed by another contractor or by Administration maintenance staff. All costs associated with this work will be billed to the original Contractor in addition to liquidated damages.

**Incentive Payment/Liquidated Damages.** The Administration has included an incentive payment to the Contractor. When an average score equal to or greater than 85 for the entire rating quarter is given to the project by the Quality Assurance Inspector the quarterly incentive payment will be made to the Contractor within 60 days after the end of the rating quarter. No incentive will be paid for partial quarters or for quarters with less than four inspections. No incentives will be paid for any quarter that liquidated damages are imposed. A rating quarter consists of three months. The first quarter begins with the month the Notice to Proceed is issued for the project. When a project does not receive a 'D' or 'F' rating and the overall average score given to the project by the Quality Assurance Inspector is equal to or greater than 85 the final incentive payment will be made to the Contractor at final project close-out. If a time extension is granted to the Contract, additional quarterly incentive payments will be drawn from the final incentive payment.

When a 'D' or 'F' rating is given to the project by the Quality Assurance Inspector for any inspections; the Administration will impose liquidated damages on the Contractor. Payment of the liquidated damages shall be made within thirty days from imposition of the liquidated damages and shall not be allowed to accrue for consideration at final project close-out.

When the project receives two 'F' ratings the erosion and sediment control certification issued by the Administration shall be revoked from the project superintendent and the Erosion and Sediment Control Manager for a period of not less than six months and until successful completion of the Administration's Erosion and Sediment Control Certification Program. Neither the project superintendent nor the Erosion and Sediment Control Manager shall be allowed to oversee the installation and maintenance of erosion and sediment controls during the period the certification is revoked on any project of the Administration. The Contractor shall immediately provide certified personnel to replace the project superintendent and the Erosion and Sediment Control Manager. Work may not commence until the certified personnel are in place.

**308.01.03 Incentive/Liquidated Damages Payments.** The total incentive awarded for this contract will not exceed \$IFB\_IncLDTototal (Payment A). The quarterly incentive



**SPECIAL PROVISIONS**

308 — EROSION AND SEDIMENT CONTROL

CONTRACT NO. CH3505174

6 of 8

payment for this contract is \$IFB\_IncLDQuart (Payment B). A final incentive payment for this contract is \$IFB\_IncLDFinal (1/2 Payment A) less the total quarterly incentives paid during a contract extension.

For each day that the project has a 'D' rating, the Contractor and/or his surety shall be liable for liquidated damages in the amount of \$IFB\_IncLDDRating (Payment D) per day. Failure to upgrade the project to a minimum of a 'B' rating within 72 hours will result in the project being rated 'F'.

For each day that the project has an 'F' rating, the Contractor and/or his surety shall be liable for liquidated damages in the amount of \$IFB\_IncLDFRating (Payment F) per day.

**308.03 CONSTRUCTION.**

245 **DELETE:** 308.03.01 Contractor Responsibilities its entirety.

**INSERT:** The following.

**308.03.01 Contractor Responsibilities.** The Contractor shall demarcate all wetlands, wetland buffers, floodplains, tree protection areas, and the Limit of Disturbance (LOD) as specified in Section 107. Prior to beginning any earth disturbing activity, the Contractor shall have all demarcated wetlands, wetland buffers, floodplains, tree protection areas, and LOD inspected and approved by the Engineer. The Contractor shall construct all erosion and sediment control measures in conformance with 308.01.01. The Contractor shall have all control measures inspected and approved by the Engineer prior to beginning any other earth disturbing activity. The Contractor shall ensure that all runoff from disturbed areas is directed to the sediment control measures. The Contractor shall not remove any erosion or sediment control measure without the approval of the Engineer and MDE. Refer to GP-7.12 for unforeseen conditions.

246 **DELETE:** 308.03.04 Schedule in its entirety.

**INSERT:** The following.

**308.03.04 Schedule.** Within 14 days after the Notice of Award, the Contractor shall submit an Erosion and Sediment Control Schedule to implement the E & S Plan to the Administration and the MDE. The schedule shall indicate the sequence of construction, implementation and maintenance of controls, temporary and permanent stabilization, and the various stages of earth disturbance. After the schedule is approved by the Administration, it will be forwarded to MDE for approval. The schedule shall, at least include the following:

- (a) Demarcation of all wetlands, wetland buffers, floodplains, tree protection areas, and the LOD prior to any earth disturbing activity.
- (b) Clearing and grubbing of areas necessary for installation of perimeter controls specified in the Contract Documents.
- (c) Construction of perimeter controls specified in the Contract Documents.
- (d) Remaining clearing and grubbing.
- (e) Roadway grading (including off-site work).

## **SPECIAL PROVISIONS**

### **308 — EROSION AND SEDIMENT CONTROL**

CONTRACT NO. CH3505174

7 of 8

(f) If applicable, utility installation and whether storm drains shall be used or blocked after construction.

(g) Final grading, landscaping, and stabilization.

(h) Removal of perimeter controls.

No work shall be started on-site or off-site until the Erosion and Sediment Control schedules and methods of operation have been accepted by the Administration and MDE.

#### **308.03.35 Maintenance of Stream Flow.**

253 **ADD:** The following after the second paragraph "Upon completion of...to the Engineer."

The Contract Documents may include stream diversion details for maintenance of stream flow. These details show the locations of the stream diversion system and a system that is approved by the Maryland Department of the Environment.

The Contractor is alerted that the stream diversion system as shown may not be capable of blocking the flow of water through the soil beneath the stream diversion system. The Contractor shall be responsible for designing and providing an effective means of diverting the water away from the designated areas, even though it may require more elaborate diversion systems. The Contractor shall also ensure that all excavation performed within the stream diverted area shall be maintained in a dewatered condition, which may require additional pumps, sheeting, shoring, cofferdams, etc. Should the proposed system not perform satisfactorily or additional material and equipment be required to dewater the site and excavated areas, the Contractor shall remedy the stream diversion system at no additional cost to the Administration.

The Contractor shall securely anchor the stream diversion system in place to prevent movement during high water events. Prior to placing the stream diversion system, the Contractor shall submit the proposed method of anchoring to the Engineer and the MDE field inspector for approval. Anchors shall not go beyond the limits of disturbance shown on the Plans or infringe on the channel area available for stream flow. Placing the stream diversion system in the stream without the approval of both the Engineer and the MDE inspector is prohibited. All cost associated with the anchoring of the stream diversion system shall be incidental to the Maintenance of Stream Flow item.

The Contractor shall have the option of proposing an alternate stream diversion system. All conditions stated in the Contract Documents shall apply to the alternate stream diversion system. Any alternate stream diversion system shall be submitted to the Maryland Department of the Environment through the Administration for approval prior to implementation.

#### **308.05 DESIGN CERTIFICATION**

**Insert:** The following:

**SPECIAL PROVISIONS**

308 — EROSION AND SEDIMENT CONTROL

CONTRACT NO. CH3505174

8 of 8

**ENVIRONMENTAL INFORMATION**

***MDE #***

**DESIGN CERTIFICATION**

“I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN  
ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS  
FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND  
STORMWATER DESIGN MANUAL, VOLUMES I & II, AND THE MARYLAND  
DEPARTMENT OF THE ENVIRONMENT EROSION AND SEDIMENT AND  
STORMWATER MANAGEMENT REGULATIONS.”

\_\_\_\_\_  
NAME

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
MARYLAND REGISTRATION NUMBER  
P.E., R.L.S. OR R.L.A. (circle)

\_\_\_\_\_  
DATE



**SPECIAL PROVISIONS INSERT**  
**701 — TOPSOIL AND SUBSOIL**

CONTRACT NO. CH3505174  
1 of 3

***CATEGORY 700***

***LANDSCAPING***

528 **DELETE:** SECTION 701 — TOPSOIL AND SUBSOIL in its entirety.

**INSERT:** The following.

**SECTION 701 — TOPSOIL AND SUBSOIL**

**701.01 DESCRIPTION.** This work shall consist of salvaging, furnishing, and placing topsoil and subsoil as specified in the Contract Documents or as directed by the Engineer.

**701.02 MATERIALS.**

Salvaged Topsoil	920.01.01
Furnished Topsoil	920.01.02
Salvaged Subsoil	920.01.03
Furnished Subsoil	920.01.04
Limestone	920.02
Gypsum	920.03.05
Sulfur	920.03.06
Miscellaneous Landscaping Items	920.08
Compost	920.08.05

**701.03 CONSTRUCTION.** Topsoil and subsoil operations shall be performed when soil moisture or weather conditions are suitable and cease when conditions are unsuitable, or as directed by the Engineer.

**701.03.01 Salvaging Topsoil and Subsoil.**

- (a) **Evaluation of Weeds.** The Engineer and the Landscape Operations Division will evaluate topsoil and subsoil for the presence of seed, rhizomes, stolons or roots of Johnsongrass, Canada Thistle, and Phragmites prior to the salvaging operations to determine the severity of any infestation. The evaluation will determine how the topsoil and subsoil are to be used, and how to prevent the spread of these weeds.
- (b) **Soil Testing.** The Engineer will verify that the topsoil and subsoil have been tested in conformance with MSMT 356 by the Office of Materials Technology, and that a Nutrient Management Plan has been developed by the Landscape Operations Division.



**SPECIAL PROVISIONS INSERT**  
**701 — TOPSOIL AND SUBSOIL**

CONTRACT NO. CH3505174  
2 of 3

- (c) **Removal.** All vegetation shall be mowed or removed from the areas to be salvaged as specified in the Contract Documents. Topsoil and subsoil shall be removed to the depth as directed by the Engineer, and transported separately from other materials.
- (d) **Storage.** Storage areas for topsoil and subsoil shall be constructed on well drained land, away from streams, drainage areas, and floodplains as specified in Section 308.

Prior to placing stockpiles, silt fence shall be installed and maintained around the perimeter of the stockpile area as specified in 308.03.28.

Topsoil and subsoil shall be kept in neat, separate piles away from other excavated material. The piles shall be stabilized with temporary mulching or temporary seeding immediately after final shaping as specified in Section 704.

- (e) **Excess.** Excess topsoil and subsoil is the property of the Administration and removal will require written approval from the Engineer.

**701.03.02 Placing Salvaged Topsoil and Subsoil.**

- (a) **Evaluation.** The Engineer and the Landscape Operations Division will reevaluate topsoil and subsoil infested with seed, rhizomes, stolons or roots of Johnsongrass, Canada Thistle, or Phragmites before the soil is transported to the project.
- (b) **Debris Removal.** Grass, weeds, brush, and other objectionable material shall be removed from the surface of stockpiles before the soil is transported to the project.
- (c) **Grading and Surface Preparation.** Final grading in preparation for the placement of topsoil or subsoil shall provide a uniform surface true to line and cross sections.

When topsoil will not blend with the prepared substrate material, the surface of the substrate shall be roughened to provide a bond for the topsoil layer.

When topsoil will blend with the prepared substrate material, the topsoil shall be worked into that material.

- (d) **Placing, Spreading, and Compacting Subsoil.** Subsoil shall be placed, spread, and compacted in maximum layers of 8 in. to produce a firm and uniform layer of subsoil. Slopes 4:1 to 2:1 shall be tracked with cleated track-type equipment operated perpendicular to the slope.



**SPECIAL PROVISIONS INSERT**  
**701 — TOPSOIL AND SUBSOIL**

CONTRACT NO. CH3505174  
3 of 3

The completed work shall be in conformance with the thickness, lines, grades, and elevations specified in the Contract Documents. Stones and other foreign material longer or larger than 4 in. diameter shall be removed from the soil surface before topsoil is spread.

- (e) **Placing and Spreading Topsoil.** The topsoil shall be placed and spread over the designated areas to the specified depth to ensure the completed work conforms to the thickness, lines, grades and elevations specified in the Contract Documents after any settlement. Final smoothing shall provide a uniform surface true to line and cross sections.

Slopes 4:1 to 2:1 shall be tracked with cleated track-type equipment operated perpendicular to the slope. Stones and other foreign material longer or larger than 3 in. diameter shall be removed from the soil surface when spreading operations are completed.

- (f) **Amending Topsoil and Subsoil.** Salvaged topsoil and salvaged subsoil shall be amended (adding limestone, sulfur, gypsum, or compost) as specified in the Contract Documents.

**701.03.03 Placing Furnished Topsoil and Subsoil.** Refer to 701.03.02 and the following:

- (a) **Responsibility.** The Contractor shall make all arrangements and assume all responsibility for consents, agreements, and payments with property owners who may be involved with providing, preparing, or transporting topsoil and subsoil.
- (b) **Storage.** If the material is stockpiled at the project for future use, the stockpiling shall conform to 701.03.01(d).



**SPECIAL PROVISIONS INSERT**

704 — TEMPORARY SEEDING AND MULCHING

CONTRACT NO. CH3505174

1 of 2

**CATEGORY 700  
LANDSCAPING**

531 **DELETE:** SECTION 704 — TEMPORARY SEEDING AND TEMPORARY WOOD CELLULOSE MULCHING in its entirety.

**INSERT:** The following.

**SECTION 704 — TEMPORARY SEEDING AND TEMPORARY MULCHING**

**704.01 DESCRIPTION.** This work shall consist of preparing soil, furnishing and applying fertilizer, temporary seed mix, mulch and wood cellulose fiber, on cuts, fills, and other disturbed areas, that cannot be shaped and permanently vegetated for a period of time as specified in the Contract Documents or as directed by the Engineer.

**704.02 MATERIALS.**

Fertilizer	920.03.01
Seed	920.04.01 and .02
Mulch (straw or hay)	920.05.03
Wood Cellulose Fiber (mulch binder)	920.05.04
Water	920.08.01

**704.03 CONSTRUCTION.** Temporary seeding, and temporary mulching shall be done any time of the year as directed by the Engineer.

**704.03.01 Temporary Seeding.** Temporary seeding shall consist of preparing soil, applying seed, fertilizer, mulch and wood cellulose fiber to areas that will remain undisturbed for two to twelve months.

(a) **Soil Preparation.** Soil shall be loosened from the grading operation. Compacted soil surfaces shall be loosened before seed is applied as directed by the Engineer.

(b) **Application Equipment.** Equipment shall consist of hydroseeders, spreaders, drills, mulch blowers, or other application equipment approved by the Engineer.

Equipment shall be calibrated before application to the satisfaction of the Engineer so materials are applied accurately and uniformly to avoid misses and overlaps.

Hydroseeders shall display maximum capacity in gallons and be equipped with an agitation system capable of keeping all the solids in suspension.

The use of hydroseeders and spinner spreaders is prohibited during windy periods when the materials could land on sensitive areas or structures.



**SPECIAL PROVISIONS INSERT**

**704 — TEMPORARY SEEDING AND MULCHING**

CONTRACT NO. CH3505174

2 of 2

**(c) Application Rates.**

TEMPORARY SEEDING		
MATERIAL	LB PER 1000 FT <sup>2</sup>	LB PER ACRE
Temporary Seed Mix	2.9	125
Fertilizer (15-30-15) *	10.3	450
Mulch	91.8	4000
Wood Cellulose Fiber	17.2	750

\* No fertilizer shall be applied if the area has received fertilizer within the previous two months.

**(d) Seeding.** Seeding shall consist of applying seed and fertilizer to previously prepared sites.

Seed and fertilizer mixtures that are applied with hydraulic seeders shall be used within eight hours after mixing. Seed and fertilizer that are applied with mechanical seeders shall be incorporated to a depth not more than 1/4 in.

Mulch shall be applied immediately after the completion of seeding.

**(e) Mulching.** Mulching shall consist of applying mulch so that 90 percent of the soil surface is covered. Mulch applied by mulch blowers shall provide a loose depth of 1 to 2 in. Mulch applied by hand shall provide a loose depth of 1-1/2 to 3 in.

Mulch shall be secured with wood cellulose fiber and applied uniformly without displacing the mulch.

**704.03.02 Temporary Mulching.** Temporary mulching shall consist of applying mulch and wood cellulose fiber to areas that will be redisturbed in less than two months.

**(a) Soil Preparation.** Soil shall be left in the condition from the grading operation.

**(b) Application Rates.**

TEMPORARY MULCHING		
MATERIAL	LB PER 1000 FT <sup>2</sup>	LB PER ACRE
Mulch	91.8	4000
Wood Cellulose Fiber	17.2	750

**(c) Mulching.** Mulch shall be performed according to 704.03.01 (b) and (e).

**704.03.03 Repairing Damaged Areas.** Before acceptance the Contractor shall repair or replace any temporary seeding or temporary mulching that is defective or damaged due to the Contractor's negligence as determined by the Engineer at no additional cost to the Administration.





**CATEGORY 700**  
**LANDSCAPING**

**SECTION 705 — TURF ESTABLISHMENT**

532 **DELETE:** SECTION 705 — TURF ESTABLISHMENT in its entirety.

**INSERT:** The following:

**SECTION 705 — TURFGRASS ESTABLISHMENT**

**705.01 DESCRIPTION.** This work shall consist of preparing soil and establishing turfgrass as specified in the Contract Documents or as directed by the Engineer. Application rates for fertilizer and soil amendments shall be as specified in the Nutrient Management Plan.

**705.01.01 Regional Areas.** Maryland is divided into Regions by counties as follows:

REGION 1 — Garrett, Allegany and Washington (West of Clear Spring, MD).

REGION 2 — Washington (East of Clear Spring, MD), Frederick, Carroll, Baltimore, Harford, Cecil, Howard, Montgomery, and Baltimore City.

REGION 3 — Anne Arundel, Prince George's, Calvert, Charles, St. Mary's, Kent, Queen Anne's, Talbot, Caroline, Dorchester, Wicomico, Worcester and Somerset.



**SPECIAL PROVISIONS INSERT**  
**705 — TURFGRASS ESTABLISHMENT**

CONTRACT NO. CH3505174  
2 of 8

**705.01.02 Seeding Seasons and Seed Mixes.** SHA Turfgrass Seed Mix shall be seeded according to the following schedule.

SEEDING SEASONS AND SEED MIXES				
SEASONS	SPRING MONTH/DAY	SUMMER MONTH/DAY	FALL MONTH/DAY	LATE FALL MONTH/DAY
REGIONS	SHA Turfgrass Seed Mix			
1	4/1 to 6/15	6/16 to 7/31	8/1 to 10/1	10/2 to 11/1
2	3/1 to 5/15	5/16 to 7/31	8/1 to 10/20	10/21 to 11/20
3	3/1 to 5/1	5/2 to 7/31	8/1 to 10/31	11/1 to 11/30
1, 2, and 3	–	Plus Additive A or B	–	Plus Additive C
	Plus Additive D when seeding: <ul style="list-style-type: none"> <li>• Areas 30 ft and greater from the pavement edge</li> <li>• Slopes 4:1 and steeper</li> </ul>			
	When seeding areas within 4 miles of a State airport: <ul style="list-style-type: none"> <li>• Areas flatter than 4:1 - Use no Additives</li> <li>• Slopes 4:1 and steeper - Use SHA Special Purpose Seed Mix in lieu of SHA Turfgrass Seed Mix</li> </ul>			
ADDITIVES	A = Weeping Lovegrass B = Foxtail Millet		C = SHA Temporary Seed Mix D = Sericea Lespedeza	

**705.02 MATERIALS.**

Limestone	920.02
Fertilizer	920.03.01
Gypsum	920.03.05
Sulfur	920.03.06
Seed	920.04.01
SHA Seed Mixes	920.04.02
Mulch (straw or hay)	920.05.03
Wood Cellulose Fiber (mulch binder)	920.05.04
Water	920.08.01
Compost	920.08.05

**705.02.01 Soil Testing.** The Engineer will verify that the soil has been tested as specified in MSMT 356 by the Office of Materials Technology and that a Nutrient Management Plan has been developed by the Landscape Operations Division.

**705.03 CONSTRUCTION.** Turfgrass establishment shall be performed when the temperature is above 32 F and the soil is not frozen.



**SPECIAL PROVISIONS INSERT**  
**705 — TURFGRASS ESTABLISHMENT**

CONTRACT NO. CH3505174  
3 of 8

**705.03.01 Establishment.** Turfgrass establishment shall consist of preparing soil, fertilizing, seeding, and mulching. In addition, the application of soil amendments (limestone, sulfur, gypsum, and compost), and overseeding shall be performed in conformance with the Contract Documents.

**705.03.02 Final Grading.** Final grading shall provide a uniform surface true to line and cross sections after which topsoil is placed evenly and uniformly to meet the final depth and grade requirements. Gullies, washes, or disturbed areas that develop shall be repaired prior to soil loosening, seedbed preparation, or seeding operations.

**705.03.03 Preparing Soil.** Immediately prior to seeding, topsoiled and nontopsoiled areas shall be loosened by disking, raking or rototilling to the following depths:

- (a) **Topsoiled Areas 4 In. and Greater Thickness.** The topsoil shall be loosened to a minimum depth of 3 in.
- (b) **Topsoiled Areas 2 In. Thickness.** The topsoil shall be loosened to a depth of 2 in.
- (c) **Nontopsoiled Areas.** The subsoil shall be loosened to a depth of 1 in.
- (d) **Slopes 4:1 to 2:1.** The soil shall be tracked with cleated track-type equipment operated perpendicular to the slope.
- (e) **Serrated Cut Slopes.** The soil shall not be loosened.

**705.03.04 Preparing Seedbed.** Seedbed shall conform to the specified finished grade and be tilled to provide a uniform, porous surface able to receive and support the growth of turfgrass seed. The finished seedbed shall be free of weed or plant growth.

- (a) **Areas Flatter than 4:1.** Bulldozer cleat marks shall be removed and the line and cross sections shall be evenly and uniformly leveled to establish a fine seed bed.

Clods, stones, and other foreign material longer or larger than 1-1/2 in. diameter shall be removed from the surface of areas within 15 ft of the pavement edge, or areas adjacent to commercial and residential properties.

In all other areas, stones and other foreign materials longer or larger than 2-1/2 in. diameter shall be removed from the soil surface.

- (b) **Slopes 4:1 and Steeper.** Clods, stones, and other foreign materials longer or larger than 3.0 in. diameter shall be removed from the soil surface.



**SPECIAL PROVISIONS INSERT**  
**705 — TURFGRASS ESTABLISHMENT**

CONTRACT NO. CH3505174  
4 of 8

**705.03.05 Application Equipment.** Equipment shall consist of spreaders, drills, hydroseeders, or other application equipment approved by the Engineer. Equipment shall be calibrated before application to the satisfaction of the Engineer so that materials are applied accurately and evenly to avoid misses and overlaps.

Hydroseeders shall display maximum capacity in gallons and be equipped with an agitation system capable of keeping all solids in suspension. The mixture shall be directed so the droplets produce a uniform spray to avoid erosion or runoff.

Mechanical seeders shall be capable of placing seed at the specified rate.

Use of hydroseeders and spinner spreaders is prohibited during windy periods when the materials could land on sensitive areas or on sensitive structures.



**SPECIAL PROVISIONS INSERT**  
**705 — TURFGRASS ESTABLISHMENT**

CONTRACT NO. CH3505174  
5 of 8

**705.03.06 Application Rates.**

<b>APPLICATION RATES - TURFGRASS ESTABLISHMENT</b>		
<b>MATERIAL</b>	<b>LB PER 1000 FT<sup>2</sup></b>	<b>LB PER ACRE</b>
<b>LIMESTONE</b> All Areas Regions 1 and 2: Limestone Region 3: Dolomitic Limestone	0 to 200* 0 to 185*	0 to 8700* 0 to 8050*
<b>SULFUR</b> All Areas	0 to 30*	0 to 1300*
<b>GYPSUM</b> All Areas except Serrated Cut Slopes	0 to 92*	0 to 4000*
<b>COMPOST</b> All Areas except Serrated Cut Slopes	0 to 1.4 yd <sup>3</sup> compost per 24 yd <sup>3</sup> of topsoil*	
<b>SHA TURFGRASS SEED MIX</b> Areas less than 30 ft from the pavement edge flatter than 4:1, and at facilities	4.6	200
<b>SHA TURFGRASS SEED MIX &amp; SERICEA LESPEDEZA</b> Areas 30 ft and more from the pavement edge, and slopes 4:1 and steeper SHA Turfgrass Seed Mix Sericea Lespedeza	2.3 0.46	100 20
<b>SHA SPECIAL PURPOSE SEED MIX</b> Slopes 4:1 and steeper within four miles of a State airport	4.6	200
<b>ADDITIVE SEED</b> A = Weeping Lovegrass B = Foxtail Millet C = SHA Temporary Seed Mix D = Sericea Lespedeza	0.046 0.23 0.57 0.46	2 10 25 20
<b>FERTILIZER AT SEEDING</b> Topsoiled Areas 20-16-12 (83% UF nitrogen, 100% SOP potassium) 38-0-0 (UF) 0-0-50 (SOP) Nontopsoiled Areas 20-16-12 (83% UF nitrogen, 100% SOP potassium) 38-0-0 (UF) 0-0-50 (SOP)	4.6 to 23.0* 0 to 9.2* 0 to 5.7* 4.6 to 23.0* 8.0 to 17.2* 0 to 5.7*	200 to 1000* 0 to 400* 0 to 250* 200 to 1000* 350 to 750* 0 to 250*
<b>MULCH</b> Straw or Hay Secured with Wood Cellulose Fiber Straw or Hay Secured with Mulch Anchoring Tool Wood Cellulose Fiber	92 115 34	4000 5000 1500
<b>MULCH BINDER</b> Wood Cellulose Fiber	17	750
<b>REFERTILIZING</b> 5-20-20 38-0-0 (UF)	4.6 11.5	200 500

\* Actual amount will be specified in the Nutrient Management Plan. Note: UF = Ureaform SOP = Sulfate of Potash



**SPECIAL PROVISIONS INSERT**  
**705 — TURFGRASS ESTABLISHMENT**

CONTRACT NO. CH3505174  
6 of 8

**705.03.07 Incorporating Soil Amendments.** Soil amendments (limestone, sulfur, gypsum, and compost) shall be incorporated as follows.

- (a) **Topsoiled Areas Flatter than 4:1.** The amendments shall be incorporated into the soil to a depth of 3 in. when the depth of the topsoil to be placed is 4 in. and greater, and into the soil to a depth of 2 in. when the depth of the topsoil to be placed is 2 in.
- (b) **Topsoiled Areas 4:1 and Steeper.** The amendments (limestone, sulfur, and gypsum) shall be applied to the slopes before the tracking or immediately after the tracking operation is performed. Compost shall be incorporated into the topsoil in a separate operation before topsoil is spread on the slopes.
- (c) **Nontopsoiled Areas and Serrated Cut Slopes.** The amendments shall be applied to the soil surface after soil loosening operations are completed.

**705.03.08 Fertilizing and Seeding.** These materials shall only be applied to previously prepared sites.

Fertilizer and seed mixtures that are applied with hydraulic seeders shall be used within eight hours after mixing. Seed and fertilizer that are applied with mechanical seeders shall be incorporated to a depth not less than 1/8 in. or more than 1/4 in.

Sericea lespedeza seed shall be inoculated as specified on the inoculant package label.

When sericea lespedeza is sown by hydraulic seeders, 10 times the quantity of inoculant required for dry seeding shall be used. Seed not sown within one hour shall be reinoculated.

When sericea lespedeza is sown by mechanical seeders, the seed shall be dampened with water and mixed with the inoculant. The inoculated seed shall then be mixed with the other seed to be sown. Inoculated seed not sown within 24 hours shall be reinoculated.

On slopes 4:1 and steeper, including serrated cut slopes, the areas shall be seeded, fertilized, and mulched in 15 ft maximum vertical increments.

**705.03.09 Mulching.** Mulch shall be applied immediately after seeding as follows.

- (a) **Mulch.** Mulch shall be applied so that 90 percent of the soil surface is covered. Mulch applied by blowers shall provide a loose depth of 1/2 to 2 in. and mulch applied by hand shall provide a loose depth of 1-1/2 to 3 in.



**SPECIAL PROVISIONS INSERT**  
**705 — TURFGRASS ESTABLISHMENT**

CONTRACT NO. CH3505174  
7 of 8

- (b) **Wood Cellulose Fiber Mulch.** Wood cellulose fiber may be approved by the Engineer as a substitute for straw or hay mulch on slopes 1-1/2:1 and steeper where the use of straw or hay application equipment is not feasible. During the summer seeding season at least 70 percent of the hydromulch shall be applied after and separately from the seed and fertilizer.

**705.03.10 Securing Mulch.** Mulch shall be secured immediately following application by either of the following methods.

- (a) **Mulch Binding.** This method shall consist of applying wood cellulose fiber uniformly without displacing the mulch.
- (b) **Mulch Anchoring Tool.** This method shall be used for the summer seeding season on areas flatter than 4:1 and median areas on highways under traffic. Mulch shall be incorporated into the soil to a minimum depth of 2 in.

**705.03.11 Overseeding.** Overseeding shall consist of applying seed and fertilizer to previously seeded and mulched areas where turfgrass establishment has not been successful and where sufficient mulch remains from the previous mulch application. Additional soil preparation and mulch will not be required. Fertilizer shall not be applied to sites that received fertilizer within the previous 2 months unless approved by the Landscape Operations Division.

**705.03.12 Fertilizer Reporting.** A record of the fertilizer analysis, the square yards covered, and the pounds of fertilizer applied shall be provided to the Engineer on the Administration Fertilizer Reporting Form within 24 hours of applying fertilizer.

**705.03.13 Acceptance.** At the time of acceptance, turfgrass color and coverage will be assessed by the Engineer and the Landscape Operations Division. When it is not possible to assess turfgrass color and coverage, acceptance will be delayed until assessment is possible.

Turfgrass will be accepted as established at the semi-final and final inspections when it exhibits dark green color and the percent coverages as specified below.

TURFGRASS ESTABLISHMENT COVERAGE		
AREAS	SHA TURFGRASS SEED MIX or SHA SPECIAL PURPOSE SEED MIX	OTHER DESIRABLE VEGETATION
	Percent Coverage	
Areas flatter than 4:1; and slopes 4:1 and steeper not tracked with bulldozer	95% minimum	up to 5%
Slopes 4:1 and steeper tracked with bulldozer	50% minimum	up to 50%



**SPECIAL PROVISIONS INSERT**  
**705 — TURFGRASS ESTABLISHMENT**

CONTRACT NO. CH3505174  
8 of 8

**705.03.14 Mowing.** This work shall consist of mowing as specified in the Integrated Vegetation Management Manual for Maryland Highways and as specified below.

MOWING HEIGHT IN INCHES				
AREAS	TRACTOR CUTTING		HAND CUTTING	
	Maximum Height Before Mowing	Height of Cut	Maximum Height Before Mowing	Height of Cut
General Areas	18	4 - 5	10	3 – 4
In Medians or Adjacent to Commercial or Residential Areas	12	4 - 5	8	3 – 4

**705.03.15 Refertilizing.** Refertilizing shall consist of applying 5-20-20 and 38-0-0 (UF) fertilizer in April or September or combination thereof 4 to 12 months after seeding, as directed by the Landscape Operations Division.

REFERTILIZING TURFGRASS AREAS		
AREAS	REGIONS	NUMBER OF APPLICATIONS
Topsoiled	1 and 2	1
Nontopsoiled and Serrated Cut Slopes	1 and 2	1
	3	2





**SPECIAL PROVISIONS INSERT**  
**708 — TURFGRASS SOD ESTABLISHMENT**

CONTRACT NO. CH3505174  
1 of 3

**CATEGORY 700**  
**LANDSCAPING**  
**SECTION 708 — SODDING**

545 **DELETE: SECTION 708 — SODDING** in its entirety.

**INSERT:** The following:

**SECTION 708 — TURFGRASS SOD ESTABLISHMENT**

**708.01 DESCRIPTION.** This work shall consist of preparing soil and installing turfgrass sod as specified in the Contract Documents or as directed by the Engineer. Application rates for fertilizer and soil amendments shall be as specified in the Nutrient Management Plan.

**708.01.01 Regional Areas.** Regional Areas. Refer to 705.01.01.

**708.01.02 Installing Season and Species.** Turfgrass sod shall be installed between the dates of August 15 and May 31. Tall fescue sod shall be used in all Regions. Bermudagrass sod may be used in Region 3 as directed by the Landscape Operations Division.

**708.02 MATERIALS.**

Limestone	920.02
Fertilizer	920.03.01
Gypsum	920.03.05
Sulfur	920.03.06
Turfgrass Sod	920.04.03
Staples	920.06.01
Water	920.08.01
Compost	920.08.05

**708.02.01 Soil Testing.** Refer to 705.02.01.

**708.03 CONSTRUCTION.** Turfgrass sod establishment shall be performed when the temperature is above 32 F and the soil and sod is not frozen.

**708.03.01 Establishment.** Turfgrass sod establishment shall consist of preparing soil, applying fertilizer, installing sod, and initial watering. In addition, the application of soil amendments (limestone, sulfur, gypsum and compost), additional watering and repairing damaged areas shall be performed according to the contract documents or at the direction of the Engineer.

**708.03.02 Final Grading.** Refer to 705.03.02.



**SPECIAL PROVISIONS INSERT**

**708 — TURFGRASS SOD ESTABLISHMENT**

CONTRACT NO. CH3505174

2 of 3

**708.03.03 Preparing Soil.** Areas shall conform to the specified finished grade and be tilled to provide a uniform, porous surface able to receive and support the growth of sod. The areas shall be free of weed or plant growth, and shall be loosened by rototilling, disking, raking or by other approved methods to a depth of 3 in. immediately before installing turfgrass sod.

Clods, stones and other foreign material longer and/or larger than 1-1/2 in. diameter shall be removed from the soil surface.

**708.03.04 Application Equipment.** Refer to 705.03.05.

**708.03.05 Incorporating Soil Amendments.** After soil amendments have been applied they shall be worked into the top 3 in. of the soil.

**708.03.06 Application Rates.**

TURFGRASS SOD ESTABLISHMENT		
MATERIAL	LB PER 1000 FT <sup>2</sup>	LB PER ACRE
LIMESTONE	0 to 200*	0 to 8700*
SULFUR	0 to 30*	0 to 1300*
GYPSUM	0 to 92*	0 to 4,000*
COMPOST	0 to 1.4 cubic yards of compost per 24 cubic yards of topsoil*	
FERTILIZER		
20-16-12 (83% UF nitrogen, 100% SOP potassium)	4.6 to 23.0*	200 to 1000*
38-0-0 (UF)	0 to 9.2*	0 to 400*
0-0-50 (SOP)	0 to 5.7*	0 to 250*

\* Actual amount will be specified in the Nutrient Management Plan

Note: UF = Ureaform SOP = Sulfate of Potash

**708.03.07 Fertilizer Reporting.** Refer to 705.03.12.

**708.03.08 Transporting and Handling.** Turfgrass sod shall be transported and installed within 48 hours from the time it is harvested, and be handled without excessive breaking, tearing or loss of soil.

**708.03.09 Installing.** Turfgrass sod shall be installed with closed seams and with no overlapping or gapping between sod strips.



**SPECIAL PROVISIONS INSERT**

**708 — TURFGRASS SOD ESTABLISHMENT**

CONTRACT NO. CH3505174

3 of 3

**(a) Slopes.** Turfgrass sod installed on slopes 2:1 and steeper shall be placed with the long edges parallel to the contour starting at the bottom of the slope. Successive sod strips shall be neatly matched and all joints staggered.

**(b) Ditches.** Turfgrass sod installed in drainage ditches shall be placed so that the length of the strip is parallel to the direction of the flow of the water.

**708.03.10 Firming.** Turfgrass sod shall be tamped or rolled after placing to tighten the seams between the sod pieces, and to press the sod firmly into the soil surface. Hand tampers shall weigh approximately 15 lb and have a flat surface of approximately 100 in<sup>2</sup>. Rollers shall weigh approximately 40 lb per ft of width.

**708.03.11 Securing.** Turfgrass sod installed on slopes 2:1 and steeper, or in surface drainage ditches with a V-shaped or flat bottom cross-section, shall be firmly secured to the soil surface with a minimum of two staples per sod strip. Staples shall be spaced no more than 2 ft apart and driven flush with the top of the soil.

**708.03.12 Initial Watering.** Turfgrass sod shall be thoroughly watered a minimum of three times after placement so that the sod is kept moist and able to root into the soil. The first watering shall be within four hours after the sod is placed and adequate to wet the soil to a depth of 3 in. below the sod. The second and third watering shall be within 10 days after the sod is placed. A minimum of 24 hours shall elapse between the second and third watering.

**708.03.13 Additional Watering of Turfgrass Sod.** The water needs of the turfgrass sod shall be monitored to maintain adequate moisture in the upper 4 in. of soil. When additional watering is necessary, the Engineer shall be notified, and if the Engineer concurs, watering shall begin immediately.

**708.03.14 Acceptance.** At the time of acceptance, turfgrass sod coverage, color and rooting will be assessed by the Engineer and the Landscape Operations Division. When it is not possible to assess sod color and coverage, acceptance will be delayed until assessment is possible.

Turfgrass sod will be accepted at the Semi-final and Final Inspections when the sod has 99% coverage, exhibits dark green color, and is firmly rooted into the soil.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

1 of 13

**CATEGORY 700  
LANDSCAPING**

549 **DELETE:** SECTION 710 — PLANTING TREES, SHRUBS, VINES, AND SEEDLING STOCK in its entirety.

**INSERT:** The following.

**SECTION 710 — TREE, SHRUB, AND PERENNIAL  
INSTALLATION AND ESTABLISHMENT**

**710.01 DESCRIPTION.** This work shall consist of installing and establishing trees, shrubs, perennials, vines, and grasses as specified in the Contract Documents or as directed by the Engineer.

**710.02 MATERIALS.**

Limestone	920.02
Fertilizer	920.03.01 thru .03
Iron Sulfate	920.03.04
Shredded Hardwood Bark Mulch	920.05.01
Plants	920.07
Miscellaneous	920.08
Water	920.08.01
Peat Moss	920.08.02
Compost	920.08.05

**710.03 CONSTRUCTION.**

**710.03.01 General.**

(a) **Planting Seasons.** Plant installation shall be completed during the following Planting Seasons unless approval for out-of-season installation is granted as specified in 710.03.02(b):

PLANTING SEASONS					
SEASON	DECIDUOUS TREES, SHRUBS, VINES		EVERGREEN TREES, SHRUBS, VINES		PERENNIALS, GRASSES
	Balled & Burlapped, Bare Root	Container Grown	Balled & Burlapped	Container Grown	Container Grown
<b>Spring</b>	3/1 – 4/30	3/1 – 6/15	3/15 – 4/30	3/15 – to 6/15	4/15 – 6/30
<b>Fall</b>	10/15 – 12/15	8/15 – 12/15	9/1 – 11/15	8/15 – 11/15	9/1 – 10/30



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

2 of 13

- (b) **Substitution Request.** Any request to install plants of different species, cultivars, sizes, growth habits, or planting stock type shall be submitted in writing as a Substitution Request to the Engineer.

The Engineer and the Landscape Operations Division will evaluate the request and, if approved, provide a Notice of Approved Substitution within 14 days. Any Notice of Approved Substitution shall be submitted with the proposed Installation Phase Schedule.

- (c) **Pesticide Application.** Pesticide applications shall be performed in conformance with the Maryland Pesticide Applicator's Law, the manufacturer's recommendations and the Administration's Integrated Vegetation Management Manual for Maryland Highways.

The Contractor shall possess a Maryland Department of Agriculture Commercial Pesticide Business License and a Pesticide Applicator Certificate for the category of pest control appropriate for the work: (2) Forest; (3-A) Ornamental Plant - Exterior; (3-C) Turf; (5) Aquatic; (6) Right-of-Way and Weed. Pesticides shall be applied by a Maryland Certified Applicator or a Registered Pesticide Applicator.

- (d) **Pesticide Reporting.** A daily record of the site location and acreage treated, and the name and quantity of pesticide applied shall be provided to the Engineer on the Administration's Pesticide Reporting Form within 24 hours of application.

- (e) **Nutrient Management Plan (NMP).** When required, a NMP will be developed by the Landscape Operations Division and included in the Contract Documents. The NMP shall update fertilizer and soil amendment application rates specified in 710.03.04 and .05.

- (f) **Fertilizer Reporting.** A record of the fertilizer analysis, the square yards covered, and the pounds of fertilizer applied shall be provided to the Engineer on the Administration Fertilizer Reporting Form within 24 hours of applying fertilizer.

- (g) **Plant Storage and Handling.** Refer to 920.07.

**710.03.02 Submittals and Inspection.** The following items shall be submitted as indicated:

- (a) **Breakdown List of Contract Prices.** The Breakdown List of Contract Prices shall total 100 percent of the Contract prices per plant or other items, with the costs to perform the Installation and Establishment Phases as specified in the Prorated Payment Schedule.

The Breakdown List shall be provided in writing to the Engineer within 14 days of Award of Contract. The Engineer will examine the submitted Breakdown List for completeness and balance, and either return the Breakdown List to the Contractor for correction, or forward the approved Breakdown List to the Landscape Operations Division.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

3 of 13

- (b) Installation Phase Schedule.** The Schedule shall include any Notice of Approved Substitution of plant material and provide dates for completing major operations of the Contract related to 710.03.01 thru .15, including:

OPERATIONS INCLUDED IN INSTALLATION PHASE SCHEDULE	
1	Layout, utilities review and marking.
2	Undesirable vegetation removal and herbicide application.
3	Planting pit excavation, preparation and plant installation.
4	Planting beds tilling, mulching, and plant installation.
5	Applying fertilizer solution after installation, and cleanup.

The Schedule shall be submitted to the Engineer at least 30 days before beginning landscape work or installing plants. The Engineer will examine the proposed Schedule for completeness and feasibility, and either return the Schedule to the Contractor for correction, or forward the proposed Schedule to the Landscape Operations Division for further review and comment before granting approval.

- (c) Integrated Pest Management Program (IPM).** The IPM Program shall include methods of pest monitoring (weeds, diseases, insects, mammals, etc.), pesticide selection, application rates and scheduling.

The IPM Program shall be submitted to the Engineer with the Installation Phase Schedule. The Engineer will forward the proposed IPM Program to the Landscape Operations Division for review and comment before granting approval.

- (d) Plant Material Inspection and Approval.** The Inspection shall be conducted by the Landscape Operations Division as specified in 920.07.03.

- (e) Establishment Phase Schedule.** The Schedule shall include dates for completing major operations of the Contract related to the performance of 710.03.22, including pest management, cutting foliage, and refertilizing.

The Schedule shall be submitted to the Engineer at least 7 days before the Semi-final Installation Phase Inspection. The Engineer will forward the proposed Schedule to the Landscape Operations Division for review and comment before granting approval.

**710.03.03 Layout.** Refer to Section 875 when included in the Contract Documents. ‘Miss Utility’ or another service approved by the Engineer shall be used to identify and mark the location of utilities prior to layout. The Engineer will refer any potential conflicts to the Landscape Operations Division for resolution. Where conflicts involve design changes, the Administration will respond to notice by the Contractor of a potential conflict within 14 days.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

4 of 13

The Contractor shall provide the necessary materials and lay out the locations of planting pits and planting beds specified in the Contract Documents, or as adjusted by the Landscape Operations Division.

The Engineer will require a minimum of 7 days notice to schedule each stage of a layout inspection in consultation with the Landscape Operations Division. Landscape work shall proceed after the layouts are approved by the Engineer.

**710.03.04 Preparing Planting Pits.** The following operations shall be performed when preparing planting pits for individual plants:

- (a) **Undesirable Vegetation.** Undesirable vegetation shall be controlled in conformance with the IPM Program at least 14 days before installation. Undesirable vegetation within Bioretention Facilities shall be manually removed without the use of herbicides.
- (b) **Excavation.** Planting pits shall be excavated to the depth required for the placement of root collars as specified in 710.03.09(c). The excavated soil shall be retained for preparation as backfill soil. Excess soil shall be removed from the site or spread as directed by the Engineer.
- (c) **Pit Diameter, Compost, Fertilizer, and Water.** The following table shall determine the diameter of the planting pit based upon the container or root ball diameter, the volume of compost or peat moss to be mixed into the backfill soil, and the amount of water to be used per watering event.



**SPECIAL PROVISIONS INSERT**

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

CONTRACT NO. CH3505174

5 of 13

In the absence of a NMP, 14-14-14 or 20-10-5 fertilizer shall be added to each planting pit during installation as follows:

PREPARING PLANTING PITS AND BACKFILL SOIL						
Container or Root Ball Diameter	ANSI Z60 Container	Planting Pit Diameter	Compost or Peat Moss Amendment	14-14-14 Granular Fertilizer	20-10-5 Tablet Fertilizer	Water per Event
In.	Size	In.	Ft. <sup>3</sup>	Oz.	Each	Gal.
3	#SP3	6	0.02	0.10	-	0.15
5	#SP4	10	0.02	0.12	-	0.2
6	#SP5 or #1	12	0.03	0.18	-	0.3
8	#2	17	0.09	0.30	-	0.5
10	#3	21	0.18	0.55	-	1.0
12	#5	24	0.28	0.75	-	1.5
14	#7	28	0.44	1.0	1	2.3
16	#10	32	0.65	1.3	1	3.5
18	#15	36	0.94	1.6	1	5.0
20	#20	40	1.27	2.0	1	6.8
24	#25	48	2.20	3.0	2	12
30	-	60	4.30	4.5	3	23
36	#45	72	7.40	6.5	5	40
42	#65	84	11.80	8.8	7	60

- (d) **Compost or Peat Moss.** Compost shall be mixed into the backfill soil as specified in 710.03.04(c) when installing all plants except Ericaceous species, which shall be amended with the same volume of peat moss.
- (e) **pH Adjustment.** Soil pH shall be adjusted to pH 6.0 to 6.5 for all plants except Ericaceous species, which shall be pH 5.0 to 5.5. Limestone shall be used to raise soil pH and iron sulfate shall be used to lower soil pH as specified in the NMP.
- (f) **Fertilizer.** Plants shall receive either 14-14-14 granular fertilizer or 20-10-5 fertilizer tablets at the time of installation.

14-14-14 fertilizer shall be mixed into the backfill soil of trees, shrubs, vines, perennials and grasses, or

20-10-5 fertilizer shall be placed in the backfill soil near the mid-point depth of the planting pit of trees, shrubs and vines in lieu of 14-14-14 fertilizer.





**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

6 of 13

**710.03.05 Preparing Planting Beds.** The following operations shall be completed when preparing planting beds:

- (a) **Vegetation Removal.** Undesirable vegetation shall be controlled as specified in 710.03.04(a). Dead woody vegetation shall be cut and removed. Dead herbaceous vegetation shall be mowed to a height of 1 in. and removed.
- (b) **Fertilizer and Soil Amendments.** Fertilizer and soil amendments (limestone, iron sulfate, compost, peat moss) shall be uniformly applied at rates specified in 710.03.04(c) or as specified in the NMP. 14-14-14 or 20-10-5 fertilizer shall be mixed into the backfill soil of each planting pit within the planting bed. Refer to 710.03.04(f) and the following:
  - (1) **Areas Flatter than 4:1.** Compost shall be applied to the soil surface to provide a depth of 2 in. after settlement.
  - (2) **Slopes 4:1 and Steeper.** Compost or peat moss shall be mixed into the backfill soil of each planting pit within the planting bed.
- (c) **Rototilling.** Rototilling shall be performed as follows:
  - (1) **Areas Flatter than 4:1.** Rototill to a depth of 6 in. to thoroughly mix compost and specified fertilizer or soil amendments into the soil.
  - (2) **Slopes 4:1 and Steeper.** Do not rototill.
  - (3) **Bioretention Soil Mixture.** Do not rototill.
- (d) **Debris Removal.** Debris, stones, and soil clods larger or longer than 2 in. diameter in the planting bed or that are uncovered during rototilling shall be removed.
- (e) **Leveling.** After rototilling, the soil surface shall be leveled and left in a condition ready for mulching and plant installation.

**710.03.06 Plant Acclimation.** Container grown plants shall be acclimated to prevailing weather conditions before installing. Bare root plants shall be installed while dormant when soil and air temperatures are above freezing.

**710.03.07 Plant Care.** Plant care shall begin at the time each plant is installed and continue until Installation Phase Acceptance is granted. When plant installation takes place over several Planting Seasons, the additional expense related to extended plant care shall be at no additional cost to the Administration unless partial acceptance is granted.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

7 of 13

**710.03.08 Pruning.** Deciduous trees taller than 6 ft shall be pruned to remove damaged or undesirable wood before installing. Deciduous trees and shrubs 6 ft or shorter shall be pruned when installed. The natural appearance of plants shall be preserved. Water sprouts shall be manually removed with pruners.

**710.03.09 Installing.** Plants shall be installed vertically in planting pits and beds prepared as specified in 710.03.04 and 710.03.05, respectively and as follows:

- (a) **Removing Containers, Burlap, and Wire Baskets.** Plastic or metal containers shall be removed before installing plants. Burlap and wire baskets shall be removed from the tops of root balls to a point at least 6 in. below the surface grade of the backfilled planting pit.
- (b) **Preparing Roots.** Container grown plants shall be carefully removed from their containers and their roots loosened to eliminate girdling roots. The roots of bare root plants shall be spread in a natural position and the amended soil worked around the roots.
- (c) **Placing Root Collar.** The root collar and root mass of plants shall be placed at or above the average soil surface grade outside the planting pit as follows:

SOIL CONDITIONS	ROOT COLLAR PLACEMENT Relative to Average Surface Grade Outside Planting Pit
Normal, Well Drained	Same level.
Compacted	1 to 2 in. above.
Poorly Drained or Wet	As needed to ensure 25% of root mass is above.

- (d) **Backfilling.** Clods, stones and other foreign material longer or larger than 2 in. shall be removed from soil used for backfilling. Backfill soil that has been fertilized and amended as specified in 710.03.04 and 710.03.05 shall be placed under and around roots to stabilize plants in upright position and to restore the grade.

Backfill soil shall be lightly compacted to reduce air pockets. Excessive compaction of Bioretention Soil Mixture (BSM) shall be avoided.

**710.03.10 Soil Berming.** The planting pits of perennials, vines, and grasses shall not be bermed. The planting pits of trees and shrubs shall be bermed with amended backfill soil as follows:

- (a) **Planting Pits.** On areas flatter than 4:1, the berm shall be formed around the entire planting pit. On slopes 4:1 and steeper, soil from the upslope rim of the pit shall be placed on the downslope rim to create the berm.
- (b) **Planting Beds.** On slopes 4:1 and steeper, the berm shall form a shoulder at the lower edge of the bed. Individual plants in beds shall not be bermed, except trees and shrubs installed within beds on slopes 4:1 and steeper shall be bermed as described in (a) above.



**SPECIAL PROVISIONS INSERT**

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

CONTRACT NO. CH3505174

8 of 13

**710.03.11 Edging.** On areas flatter than 4:1, the soil at the edges of planting pits and planting beds shall be cut at a steep angle into the mulched area. Edging shall be cut smoothly to a depth of 3 in. to the shapes shown in the Contract Documents. Excess soil shall be removed and discarded. Planting pits and beds on slopes 4:1 and steeper shall not be edged.

**710.03.12 Staking and Guying.** Trees shall be staked or guyed the same day they are installed.

- (a) **Installation.** Trees shall have two stakes installed parallel to the direction of traffic, or as directed by the Engineer. Stakes shall be driven vertically to a depth of 10 in. below the bottom of the pit, and 5 to 8 in. away from roots as follows:

STAKING AND GUYING				
TREE TYPE	CALIPER In.	HEIGHT Ft	SUPPORT	
			No. of Stakes	Length, ft
Shade	Under 1	6 and 8	2	6
	1 to 2	—	2	8
	2-1/2 to 3-1/2	—	3	10
	4 and over	—	—	3 guy wires attached to tree anchors
Flowering	3/4 to 2-1/2	—	2	5-8
	3 and over	—	—	3 guy wires attached to tree anchors
	—	5 and 6	2	5-6
Evergreen	—	7, 8 and 9	3	7-8
	—	10 and over	—	3 guy wires attached to tree anchors

- (b) **Maintenance.** Trees that become crooked after installation shall be promptly straightened. Stakes, guys, and other support materials shall be repaired or replaced as needed.

**710.03.13 Mulching.** Mulch shall be uniformly spread over the soil surface to provide a depth of 2 in. after settlement as specified herein. Damage caused by rain washout shall be repaired promptly.

- (a) **Planting Pits.** Mulch shall be spread around the base of each plant to cover the soil of the planting pit to its outside edge including the soil berm.

Mulch shall be spread the same day that plants are installed. Mulch shall not touch the bark or main stem of the plant.



**SPECIAL PROVISIONS INSERT**

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

CONTRACT NO. CH3505174

9 of 13

Trees and shrubs installed within planting beds shall be staked and mulched after the bed is rototilled, and before mulch is spread over the planting bed.

- (b) Planting Beds.** Mulch shall be spread over the entire surface of the bed and raked to an even surface, including berms and shoulders.

Planting beds that have been rototilled shall be mulched within 24 hours of rototilling, and beds that have not been rototilled shall be mulched within 3 days of installation.

Mulch may be spread before or after installing plants. When installation is completed, mulch cover shall be restored to a uniform 2 in. depth over soil surfaces and around the bases and stems of plants to the satisfaction of the Engineer.

**710.03.14 Fertilizing and Watering after Installation.**

- (a) Application Equipment.** Fertilizer and watering equipment shall consist of sprinklers or hoses equipped with water breaker nozzles so the materials are applied with care to prevent damage to plants and minimize disturbance to mulch.

- (b) Fertilizer Solution.** Fertilizer solution shall consist of 5 lb of 20-20-20 fertilizer per 100 gal of water, applied as follows:

**(1) Planting Pits.** Apply water as specified in 710.03.04(c) to each installed plant.

**(2) Planting Beds.** Apply 300 gal per 1000 ft<sup>2</sup> to the entire bed area.

- (c) Fertilizer Reporting.** Refer to 710.03.01(f).

- (d) Follow-Up Watering.** The Contractor shall monitor and apply water during the Installation Phase to supply plant needs. During the Installation Phase, fertilizer shall not be mixed with the irrigation water after the initial watering unless directed by the Engineer.

**710.03.15 Cleanup.** Growers tape, plant stakes, pot markers, field tags, and similar materials shall be removed at the time of installation. The Administration's Material Inspection Approval Seals and plant tags shall remain on trees and shrubs until the end of the Establishment Phase.

Turfgrass areas, paved surfaces, and sidewalks shall be kept clean. Excess and waste materials shall be removed promptly. Precautions shall be taken to avoid damage to existing structures, plants, and turfgrass. The Contractor shall repair damage caused to surrounding areas during installation including the repair of ruts and the reestablishment of turfgrass.

**710.03.16 Relocating Plants.** Plants installed in undesirable locations shall be removed as directed by the Engineer and reinstalled as specified in Section 710. Plant relocation shall begin within 7 days of notice to relocate, and continue until work is completed.



**SPECIAL PROVISIONS INSERT**

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

CONTRACT NO. CH3505174

10 of 13

**710.03.17 Abandoned Planting Pits.** Planting pits abandoned at the direction of the Engineer shall be backfilled with excavated soil or approved backfill. The backfill shall be compacted in 8 in. layers to the finished grade, and seeded as specified in Section 705.

**710.03.18 Unacceptable Plants and Replacement Plants.** Plants that are unacceptable at any time during the Installation Phase as specified in 920.07, or which are missing, dead, dying, damaged, diseased, deformed, underdeveloped, damaged by pesticides, or not true to species, cultivar, size or quality as determined by the Engineer and the Landscape Operations Division shall be removed and replaced at no additional cost to the Administration.

Unacceptable plants shall be promptly removed at the request of the Engineer, and replacement plants shall be installed as soon as feasible during the current Planting Season, or if between Planting Seasons, during the next Planting Season.

Refer to GP-5.09 regarding removal of defective work and materials, and GP-7.16 regarding Contractor responsibility for work, theft, damage, and loss.

**(a) Criteria.** The following criteria will be used to identify unacceptable plants.

CRITERIA FOR UNACCEPTABLE PLANTS			
Item	Plant Type	Condition	Unacceptable
1	Trees, Shrubs, Vines, Perennials, Grasses	Death or Absence	Any dead or missing plant, any cause.
2	Trees, Shrubs, Vines, Perennials, Grasses	Defoliation	More than 25% of leaf area dead, lost or dropped
3	Tree, Shrub, Vine	Bark Wound	More than 15% of the bark circumference.
4	Shrub or Vine	Height Die-back	More than 25% of the shrub or vine height.
5	Tree	Leader Die-back	More than 25% of the tree height.
6	Tree	Branch Die-back	More than six inches on 75% of branches.

**(b) Replacement Plants and Substitutions.** Replacement plants shall be true to species, cultivar, size, and quality as specified in the Contract Documents unless substitution plants are approved. When plants that meet the Contract specifications are not obtainable, the Contractor shall promptly submit a Substitution Request as specified in 710.03.01(b).

Replacement plants shall meet the specifications of 920.07, and be installed and established as specified in Section 710 for 12 months, until Final Acceptance.



**SPECIAL PROVISIONS INSERT**

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

CONTRACT NO. CH3505174

11 of 13

**710.03.19 Semi-Final Installation Phase Inspection.** The Engineer will schedule the Semi-Final Installation Phase Inspection at the project site with the Landscape Operations Division and the Contractor to inspect plant installation and determine the quantity of unacceptable plants. The Engineer will provide a minimum of 14 days notice before the meeting, so that the inspection may be completed in the company of the Contractor.

The Engineer, in consultation with the Contractor and the Landscape Operations Division, will develop the Replacement Plant List.

**710.03.20 Installation Phase Punch List.** The Engineer will develop the Installation Phase Punch List, including the Replacement Plant List, and forward it to the Contractor. These requirements shall be performed as specified in the Contract Documents before Installation Phase Acceptance will be granted.

**710.03.21 Final Inspection and Installation Phase Acceptance.** Upon completion of the Installation Punch List, the Contractor shall submit a request to the Engineer for Installation Phase Acceptance, and provide the Establishment Phase Schedule as specified in 710.03.02(e).

The Engineer will require 14 days notice to schedule the Installation Phase Final Inspection at the end of the Planting Season in which installation was completed (a date after June 15 or December 15).

Requested repairs, replacements and other work shall be performed as specified in the Contract Documents and Installation Phase Punch List before Acceptance will be granted.

Acceptance will be granted after the following requirements are met:

<b>REQUIREMENTS FOR INSTALLATION PHASE ACCEPTANCE</b>		
<b>Item</b>	<b>Requirement</b>	<b>Section</b>
<b>a</b>	Substitutions, Submittals, and Inspections are completed as required.	710.03.01(b), 710.03.02, 920.07
<b>b</b>	Layouts are inspected and approved are required.	710.03.03
<b>c</b>	Fertilizer and soil amendments are applied as specified.	710.03.04 and 710.03.05
<b>d</b>	Planting pits and planting beds are weed free.	710.03.04(a) and 710.03.05(a)
<b>e</b>	Trees and shrubs are pruned as needed.	710.03.08
<b>f</b>	Damaging pests are controlled.	710.03.02(c)
<b>g</b>	Trees are installed vertically and straightened as needed.	710.03.09
<b>h</b>	Planting pits and planting beds are bermed and edged as required.	710.03.10 and 710.03.11
<b>i</b>	Staking and guying are repaired or replaced as needed.	710.03.12
<b>j</b>	Mulch is uniformly spread to the specified depth.	710.03.13



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

12 of 13

<b>k</b>	Washouts in and around planting pits and beds are repaired.	710.03.13
<b>l</b>	Plants are watered and fertilized as needed.	710.03.04, 710.03.08, 710.03.14
<b>m</b>	Clean up is completed and plant tags and ribbons are removed.	710.03.15
<b>n</b>	Plants are relocated to approved locations.	710.03.16
<b>o</b>	Abandoned planting pits are filled and seeded.	710.03.17
<b>p</b>	Unacceptable plants are replaced as needed or required.	710.03.18
<b>q</b>	Damage repairs and Installation Punch List are completed.	710.03.20
<b>r</b>	Pesticide Reporting and Fertilizer Reporting Forms are completed	710.03.01(d) and (f)
<b>s</b>	Plants are properly installed and are successfully transplanted.	710.03.01 thru .18
<b>t</b>	Establishment Phase Schedule is submitted and accepted.	710.03.02 (e) and 710.03.21

Note: This list includes certain Installation Phase requirements, and does not show all requirements that shall be completed as specified in Section 710.

**710.03.22 Establishment Phase.** The Establishment Phase shall begin upon Installation Phase Acceptance. Plants shall be maintained as specified in 710.03.01 thru 0.21 and as follows:

**(a) Period of Maintenance.** Plants shall be maintained for 12 months until Final Acceptance.

**(b) Plant Watering.** The Contractor shall monitor the soil moisture and water needs of plants, and promptly provide water when needed. If the Engineer determines that soil moisture is not adequate, the Engineer will notify the Contractor to apply water.

The Contractor shall apply the volume of water specified in 710.03.04(c) to planting pits, and 600 gal of water per 1000 ft<sup>2</sup> to planting beds.

**(c) Pest Management.** The Contractor shall monitor and promptly control pests in conformance with the approved IPM Program. If the Engineer determines that pest control is not adequate, the Engineer will notify the Contractor to implement the IPM Program.

Weeds in mulched areas shall be controlled in preparation for inspection on or about the 15<sup>th</sup> of each month from March 15<sup>th</sup> to November 15<sup>th</sup>. Dead weeds taller than 6 in. shall be removed.

Refer to 710.03.01(d) and complete the Pesticide Reporting Form.

**(d) Unacceptable Plants and Replacement Plants.** Refer to 710.03.18. Plants that have become unacceptable during the Establishment Phase shall be promptly removed and replaced as needed, or at the request of the Engineer.

**(e) End-of-Season Foliage Removal.** The foliage of perennials and grasses that have declined shall be removed during the months of November and March respectively, or as directed by the Engineer.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

710 — TREE, SHRUB AND PERENNIAL INSTALL & ESTABLISH

13 of 13

- (f) **Refertilizing.** 20-20-20 fertilizer shall be applied as specified in 710.03.14 at a date approved by the Engineer in the final 60 days of completion of the Establishment Phase.
- (g) **Removing Supports and Seals.** Tree supports shall be removed in the final 30 days of the Establishment Phase. Stakes shall be removed by pulling or cutting to ground level. Hoses, wires, guys and Material Inspection Approval Seals shall be removed.
- (h) **Semi-Final Inspection and Establishment Phase Punch List.** The Semi-Final Inspection and Establishment Phase Punch List will be completed and developed as specified in 710.03.19 and .20. Requested repairs, replacements and other work shall be performed as specified in the Contract Documents and Establishment Phase Punch List before Final Acceptance will be granted.
- (i) **Final Acceptance.** Upon completion of the Establishment Phase Punch List, the Contractor shall submit a written request to the Engineer for Final Acceptance. The Engineer will require 14 days notice to schedule an inspection date in coordination with the Landscape Operations Division. Acceptance will be granted when the following requirements are met:

<b>REQUIREMENTS FOR ESTABLISHMENT PHASE &amp; FINAL ACCEPTANCE</b>		
<b>Item</b>	<b>Requirement</b>	<b>Section</b>
<b>1</b>	Water sprouts are manually pruned and removed from trees.	710.03.08
<b>2</b>	Trees are straightened as needed.	710.03.09
<b>3</b>	Staking and guying are repaired or replaced as needed.	710.03.12
<b>4</b>	Washouts in and around planting pits and beds are repaired.	710.03.13
<b>5</b>	Plants are relocated to approved locations.	710.03.16
<b>6</b>	Abandoned planting pits are filled and seeded.	710.03.17
<b>7</b>	Plants are successfully established for 12 months and watered as needed.	710.03.22(a) and (b)
<b>8</b>	Damaging pests are controlled.	710.03.22(c)
<b>9</b>	Planting pits and planting beds are weed free.	710.03.22(c)
<b>10</b>	Unacceptable plants are replaced as required.	710.03.22(d)
<b>11</b>	Annual foliage dieback of perennials and grasses is cut and removed.	710.03.22(e)
<b>12</b>	Plants are refertilized as specified.	710.03.22(f)
<b>13</b>	Pesticide Reporting and Fertilizer Reporting Forms are completed.	710.03.01(d) and (f)
<b>14</b>	Staking, guying, and Material Inspection Seals are removed.	710.03.22(g)
<b>15</b>	Damage repairs and Establishment Punch List are completed.	710.03.22(h)

Note: This list includes certain Establishment Phase requirements, and does not show all requirements that shall be completed as specified in Section 710.





**SPECIAL PROVISIONS INSERT**

711 — ANNUAL AND BULB INSTALL & ESTABLISH

CONTRACT NO. CH3505174

1 of 5

**CATEGORY 700  
LANDSCAPING**

560 **DELETE:** SECTION 711— PLANTING ANNUALS, PERENNIALS AND FALL PLANTED BULBS in its entirety.

**INSERT:** The following.

**SECTION 711 — ANNUAL AND BULB  
INSTALLATION AND ESTABLISHMENT**

**711.01 DESCRIPTION.** This work shall consist of installing and establishing annuals and bulbs as specified in the Contract Documents or as directed by the Engineer.

**711.02 MATERIALS.**

Limestone	920.02
Fertilizer	920.03.01 thru .03
Iron Sulfate	920.03.04
Shredded Hardwood Bark Mulch	920.05.01
Plants	920.07
Miscellaneous	920.08
Water	920.08.01
Compost	920.08.05

**711.03 CONSTRUCTION.**

**711.03.01 General**

- (a) **Planting Seasons.** Plant installation shall be completed during the following Planting Seasons unless approval for out-of-season installation is granted as specified in 710.03.02(b):

PLANTING SEASONS		
SEASON	PLANTS	INSTALLATION DATES
Spring	Container Grown Summer Annuals	May 10 – June 1
	Container Grown Winter Annuals	September 15 – October 15
Fall	Spring Flowering Bulbs	October 1 – November 30

- (b) **Substitution Request.** Refer to 710.03.01(b).

- (c) **Pesticide Application.** Refer to 710.03.01(c).



**SPECIAL PROVISIONS INSERT**

711 — ANNUAL AND BULB INSTALL & ESTABLISH

CONTRACT NO. CH3505174

2 of 5

**(d) Pesticide Reporting.** Refer to 710.03.01(d).

**(e) Nutrient Management Plan.** Refer to 710.03.01(e).

**(f) Fertilizer Reporting.** Refer to 710.03.01(f).

**(g) Plant Storage and Handling.** Refer to 920.07.

**711.03.02 Submittals and Inspection.** The following items shall be submitted as indicated:

**(a) Breakdown List of Contract Prices.** Refer to 710.03.02(a).

**(b) Installation Phase Schedule.** Refer to 710.03.02(b). Submit the Schedule with dates for completing 711.03.02 thru .12.

**(c) Integrated Pest Management Program (IPM).** Refer to 710.03.02(c).

**(d) Plant Material Inspection and Approval.** Refer to 710.03.02(d).

**(e) Establishment Phase Schedule.** Refer to 710.03.02(e). Submit the Schedule with dates for completing 711.03.16.

**711.03.03 Layout.** Refer to 710.03.03.

**711.03.04 Preparing Planting Beds.** Refer to 710.03.05. Omit 711.03.05 thru .07 when naturalized bulbs will not be installed in planting beds.

**711.03.05 Soil Berming.** Refer to 710.03.10(b).

**711.03.06 Edging.** Refer to 710.03.11.

**711.03.07 Mulching.** Refer to 710.03.13.

**711.03.08 Plant Acclimation.** Refer to 710.03.06.

**711.03.09 Plant Care.** Refer to 710.03.07.

**711.03.10 Installing.** Refer to 710.03.09 and the following:

**(a) Existing Beds.** Dead foliage of annuals and other unwanted vegetation from the previous season shall be removed without damaging or disturbing perennial plants and other desirable vegetation when annuals and bulbs are installed.



**SPECIAL PROVISIONS INSERT**

711 — ANNUAL AND BULB INSTALL & ESTABLISH

CONTRACT NO. CH3505174

3 of 5

- (b) **Damage.** Annuals and bulbs shall be handled with care to avoid damage or bruising. Damaged annuals or bulbs shall not be installed.
- (c) **Mulch.** Mulch at sites for annuals or bulbs installation shall be gently removed and conserved prior to digging the planting hole. Mulch shall be replaced to a depth of 2 in. over bulbs and around the stems of annuals.
- (d) **Planting Holes.** Bulbs shall be installed to the depth recommended by the grower for the species or variety. Annuals shall be installed in a hole approximately twice the width and depth of the container.

**711.03.11 Fertilizing and Watering After Installation.**

- (a) **Application Equipment.** Fertilizer and watering equipment shall consist of sprinklers or hoses equipped with water breaker nozzles so the materials are applied with care to prevent damage to plants and minimize disturbance to mulch.
- (b) **Fertilizer Solution.** Fertilizer solution shall consist of 5 lb of 20-20-20 fertilizer per 100 gal of water. Apply 300 gal per 1000 ft<sup>2</sup> to the entire bed area.
- (c) **Fertilizer Reporting.** Refer to 710.03.01(f).
- (d) **Follow-Up Watering.** The Contractor shall monitor and apply water during the Installation Phase to supply plant needs. Fertilizer shall not be mixed with irrigation water after the initial watering unless directed by the Engineer.

**711.03.12 Cleanup.** Refer to 710.03.15.

**711.03.13 Unacceptable Plants and Replacement Plants.** Refer to 710.03.18 and 920.07. Unacceptable plants shall meet the specifications of 920.07, and be installed and established as specified in Section 711 for the remainder of the growing season until Final Acceptance.

**711.03.14 Semi-Final Installation Phase Inspection.** Refer to 710.03.19.

**711.03.15 Installation Phase Punch List.** Refer to 710.03.20.

**711.03.16 Final Inspection and Installation Phase Acceptance.** Upon completion of the Installation Punch List, the Contractor shall submit a request to the Engineer for Installation Phase Acceptance, and provide the Establishment Phase Schedule as specified in 710.03.02(e).

The Engineer will require 14 days notice to schedule the Installation Phase Final Inspection at the end of the Planting Season in which installation was completed (a date after June 15 or December 15).



**SPECIAL PROVISIONS INSERT**

711 — ANNUAL AND BULB INSTALL & ESTABLISH

CONTRACT NO. CH3505174

4 of 5

Requested repairs, replacements and other work shall be performed as specified in the Contract Documents and Installation Phase Punch List before Acceptance will be granted.

Acceptance will be granted after the following requirements are met:

REQUIREMENTS FOR INSTALLATION PHASE ACCEPTANCE		
Item	Requirement	Section
<b>a</b>	Substitutions, Submittals and Inspections are completed as required.	710.03.01(b), 711.03.02, 920.07
<b>b</b>	Dead foliage in existing beds is removed.	711.03.10(a)
<b>c</b>	Fertilizer and soil amendments are applied as required.	710.03.04, 710.03.05, 711.03.11
<b>d</b>	Planting pits and planting beds are bermed and edged as required.	710.03.10 and 710.03.11
<b>e</b>	Mulch is uniformly spread to the specified depth.	710.03.13 and 711.03.10 (c)
<b>f</b>	Plants are watered and fertilized as needed.	711.03.11
<b>g</b>	Damaging pests are controlled.	711.03.02(c)
<b>h</b>	Cleanup is completed and plant tags and ribbons are removed.	710.03.15
<b>i</b>	Washouts in and around planting beds are repaired.	710.03.13
<b>j</b>	Unacceptable plants are replaced as needed or required.	710.03.18
<b>k</b>	Damage repairs and Installation Punch List are completed.	710.03.20
<b>l</b>	Pesticide Reporting and Fertilizer Reporting Forms are completed.	710.03.01(d) and (f)
<b>m</b>	Plants are properly installed and are successfully transplanted.	711.03.01 thru .13
<b>n</b>	Establishment Phase Schedule is submitted and accepted.	710.03.02 (e) and 711.03.16

Note: This list includes certain Installation Phase requirements, and does not show all requirements that shall be completed as specified in Section 711.

**711.03.17 Establishment Phase.** The Establishment Phase shall begin upon Installation Phase Acceptance. Plants shall be maintained as specified in 711.03.01 thru 0.16 and as follows:

- (a) **Period of Maintenance.** Plants shall be maintained for one Planting Season, until Final Acceptance.
- (b) **Plant Watering.** Refer to 710.03.22(b).
- (c) **Pest Management.** Refer to 710.03.22(c).
- (d) **Unacceptable Plants and Replacement Plants.** Refer to 710.03.18. Plants that have become unacceptable during the Establishment Phase shall be promptly removed and replaced as needed, or at the request of the Engineer.
- (e) **End-of-Season Foliage Removal.** The foliage of annuals that have declined shall be removed in late summer or fall, as directed by the Engineer. The foliage and flower stems of bulbs shall be removed after they have declined at the end of their growing season in June.



**SPECIAL PROVISIONS INSERT**

711 — ANNUAL AND BULB INSTALL & ESTABLISH

CONTRACT NO. CH3505174

5 of 5

- (f) **Semi-Final Inspection and Establishment Phase Punch List.** The Semi-Final Inspection and Establishment Phase Punch List will be completed and developed as specified in 710.03.19 and .20. Requested repairs, replacements and other work shall be performed as specified in the Contract Documents and Establishment Phase Punch List before Final Acceptance will be granted.
- (g) **Final Acceptance.** Upon completion of the Establishment Phase Punch List, the Contractor shall submit a written request to the Engineer for Final Acceptance. The Engineer will require 14 days notice to schedule an inspection date in coordination with the Landscape Operations Division. Acceptance will be granted when the following requirements are met:

REQUIREMENTS FOR ESTABLISHMENT PHASE & FINAL ACCEPTANCE		
Item	Requirement	Section
1	Washouts in and around planting beds are repaired.	710.03.13
2	Plants are watered as needed and refertilized as requested.	710.03.14(d), 710.03.22(b)
3	Damaging pests are controlled.	710.03.22(c)
4	Planting beds are weed free.	710.03.22(c)
5	Pesticide Reporting and Fertilizer Reporting Forms are completed.	710.03.01(d) and (f)
6	Unacceptable plants are replaced as requested.	711.03.17(d)
7	End-of-season foliage removal is completed.	711.03.17(e)
8	Damage repairs and Establishment Punch List are completed.	711.03.17(f)

Note: This list includes certain Establishment Phase requirements, and does not show all requirements that shall be completed as specified in Section 711.

**SECTION 875 UTILITIES STATEMENT**

**DESCRIPTION.** The Contractor's attention is called to the requirements of Sections GP-5.05, GP-7.13 and GP-7.17.

**MATERIALS.** Not Applicable.

**CONSTRUCTION.**

- (a) Attention of the Contractor is directed to the possible presence of water, sewer, gas mains, electrical wires, conduit, communications cables (both overhead and underground), poles and house service connections in the street or highway in which the construction project is to be performed. The Contractor shall exercise special care and extreme caution to protect and avoid damage to utility company facilities as described in the preceding sentence. The Contractor shall take into consideration the adjustments and installations by public utilities in areas within the limits of this Contract. Existing utilities have been generally located and shown on the Plans as they are believed to exist; however, the Administration assumes no responsibility for the accuracy of these locations. In the event of a water or sewer main break, the Contractor shall immediately notify the Maryland Department of the Environment and the State's Project Engineer.

**Prior to ordering any storm drain or water/sewer main materials, the Contractor shall locate and test pit any underground facilities that appear to be in conflict in order to determine if conflicts exist. The Contractor shall also review the location of the existing and proposed (when possible) aerial utilities in order to determine if conflicts exist. In the event that conflicts may be possible, this information shall immediately be forwarded to the State's representative for review and resolution. Material ordered prior to obtaining test pit information will not be considered in any request from the Contractor for any equitable adjustments due to existing utility conflicts. . Underground service connections are typically not shown on the plans, therefore, the Contractor must communicate with the utility companies to: determine where services exist; if there are conflicts and how they can be resolved. This needs to be done as a first order of business before ordering materials, no compensation will be considered for rework due to failure to follow this procedure.**

**At least 72 hours prior to the placement of any new traffic signal related equipment being installed near existing or proposed utility lines (foundations, poles, etc.) the Contractor shall contact the various utility companies, the Project Engineer, the District Utility Engineer, representatives from the Office of Traffic & Safety (both Traffic Operations Division & Traffic Engineering Design Division) and District 5 traffic section to arrange a field meeting to discuss the proposed construction.**

- (b) The Contractor shall locate all existing utilities and be responsible for their safety. Should any existing utilities be damaged or destroyed due to the operations of the Contractor, the damaged or destroyed components shall be immediately replaced or repaired as necessary to restore the utility to a satisfactory operating condition. These repairs or replacements shall be at no additional expense to the Administration or the owner of the utility.
- (c) **The existing utilities requiring relocation or adjustment shall be relocated or adjusted as per section D of the utility statement unless the responsible utility owner prefers to do their own work.** In this event, the Contractor shall inform the respective utility companies at least fifteen days prior to working in any area. In addition, the Contractor shall give sufficient notice to the specific utilities of the Contractor's overall plan for construction. The utility companies will establish the lead-time necessary to meet the applicable utility work schedule and coordinate with the Contractor's work operations based upon the Contractor's overall plan.

**Any submittal by the Contractor to vary the sequence of work and/or perform concurrent work in multiple phased differing from the recommended maintenance of traffic phasing, must be accompanied by an updated schedule or CPM reflecting all utility relocation's and adjustments. The Contractor shall be responsible, upon gaining approval, for coordinating utility relocations and adjustments with the affected utility owners, SHA project engineer and the District Utility Engineer. All requirements and lead times as stated in the Utility Statement and Special Provisions will remain in effect unless written approval for the utility company and the District Utility Engineer is received by the Contractor prior to the commencing any requested work.**

**NOTE: IT IS ANTICIPATED THAT NO FACILITIES ARE TO BE RELOCATED AS PART OF THIS CONTRACT**

- (d) The following known utility companies may have existing facilities and may have adjustments/installations within the limits of this Contract:

Charles County. Planning &  
Growth Management

Charles Beall  
301-645-0618

Verizon

Dave Metcalfe  
301-932-2288

## SPECIAL PROVISIONS

CONTRACT NO. CH3505174

PAGE 3 of 5

Southern Maryland Electric

Jim Bowling  
301-274-4318  
Chuck Stone (local)  
301-645-3686 x 8686

Washington Gas Light Company

Paul Waksmundski  
202-624.6452

Comcast

Kevin Kadjesi  
301-843-9875

Director of Public Works  
Town of La Plata

Daniel Mears  
301-934-8421

Mayor  
Town of Indian Head

Warren Bowie  
301-743-5511

Town Manager  
Town of Indian Head

Ronald Young  
301-743-5511

Level 3 Communications

Bruce Konrad  
703-762-0163

AT&T

Gary Wigfield  
301-865-3877

If it is necessary to have utility facilities braced and/or supported at any time during the course of this project, it will be the Contractor's responsibility to coordinate activities with the utility owner. All costs associated with this work will be incidental to the respective pay items.

**In the event that it is necessary for utilities to be relocated due to potential conflicts with this project, the Contractor is hereby notified that the relocations have been based on the best information available at the time the relocation design was completed. However, as it is impossible to determine how a Contractor will perform certain operations or how much space will be needed to perform those operations, the relocations will be based upon the utility companies safety and clearance requirements. It may be necessary for the Contractor to utilize non-typical procedures in some cases and any associated costs will be incidental to the pertinent items.**



**NOTE: THE CONTRACTOR SHALL MAKE ALL ADJUSTMENTS TO SURFACE UTILITY FRAME AND COVERS, NOT LIMITED TO MANHOLES, WATER VALVES, WATER METERS, GAS VALVES AND GAS METERS. THE COST OF THESE ADJUSTMENTS SHALL BE INCIDENTAL TO THE PRICE BID FOR BITUMINOUS CONCRETE SURFACE AS PER SECTION 504.04 OF THE SPECIFICATIONS OR THE VARIOUS SIDEWALK, DRIVEWAY AND CURB/GUTTER WORK UNLESS THE ADJUSTMENT IS TWELVE INCHES OR MORE, IN THESE CASES THE ADJUSTMENT(S) MAY BE PAID FOR UNDER PERTINENT LINE ITEM(S). ALL ADJUSTMENTS SHALL BE DONE ACCORDING TO THE PERTINENT UTILITY OWNERS SPECIFICATIONS. THE CONTRACTOR SHALL CONTACT THE PERTINENT UTILITY OWNERS AT LEAST 5 BUSINESS DAYS PRIOR TO ADJUSTMENT OF ANY FACILITY IN ORDER TO ENSURE THAT THE LOCATION OF ALL FACILITIES ARE KNOWN PRIOR TO PAVING. CONTRACTOR WILL REQUEST UTILITY TO ACCEPT IN WRITING ALL ADJUSTMENTS UPON COMPLETION OF WORK AND ARRANGE A FIELD MEETING BETWEEN THE UTILITY, THE CONTRACTOR AND THE SHA PROJECT STAFF.**

**IF VERTICAL ADJUSTMENTS ARE NEEDED TO MANHOLES, VALVES OR METERS THAT ARE OUTSIDE OF EXISTING PAVEMENT BUT WILL BE WITHIN NEW PAVED AREAS, THE CONTRACTOR SHALL BE PREPARED TO PERFORM THE NECESSARY WORK AND ACCEPT PAYMENT UNDER EITHER THE MISCELLANEOUS BRICK MASONRY OR CONCRETE ITEMS.**

**(e) When it is necessary to use steel plates at any point during construction, the following minimum requirements shall be met:**

- 1) Steel plates are to be no less than 1-inch thick.
- 2) Steel plates are to cover access pit(s) with a 1-foot overlap onto existing pavement on all four sides of access pit(s).
- 3) When only three sides overlap existing roadway, the fourth side shall be supported by a 12" X 12" I beam or timber.
- 4) In cases where plates are used to cover extremely large excavations, it will be necessary to install an intermediate support system to prevent deflection.
- 5) All steel plates must be recessed and pinned in place to prevent movement.
- 6) In cases where two or more are placed together, they shall be welded together by placing at least three welds, 12 inches (centered on each plate) in length on each abutting plate. One weld is placed no more than one foot from each edge and one is placed in the center of the plates.

- (f) All notifications to the above utility companies and "MISS UTILITY", 1-800-257-7777, shall be given 48 hours (two full working days) in advance of working in the area of the specific affected utility. The notification to "MISS UTILITY" is required whenever any excavating or similar work is to be performed.

Regarding stake out of Administration owned facilities, please refer to the following (a minimum 72-hour advance notice is required):

SHA fiber optic and communication cables, contact the Statewide Operations Center (SOC) 1-800-543-2515.

Intelligent Transportation System (ITS) devices, contact both the Communications Division 410-747-8590 and the ITS operations section 410-787-7662.

For State owned street lighting, contact the local Resident Maintenance Engineer.

To locate State owned traffic signal facilities, contact the Hanover Complex Signal shop, 410-787-7652.

- (g) If adjustments are required to facilities, it will be necessary that the existing facilities remain in service until the new construction is complete and placed in service. The Contractor will prepare a plan to keep the facilities in service and submit copies to the State's Project Engineer and the utility owner for review and approval at least 10 business days prior to the start of work. Also, when adjustments are required, establishment of lead times are necessary to meet the applicable utility schedule and coordination with the Contractor's work operation.



**SPECIAL PROVISIONS INSERT**  
901 — AGGREGATES

CONTRACT NO. CH3505174  
1 of 3

**CATEGORY 900**  
**MATERIALS**

**SECTION 901 — AGGREGATES**

602 **DELETE:** Table 901 A in its entirety.

**INSERT:** The following.

**SPECIAL PROVISIONS INSERT**  
**901 — AGGREGATES**

CONTRACT NO. CH3505174  
2 of 3

**TABLE 901 A**  
**AGGREGATE GRADING REQUIREMENTS TEST METHOD T 27**

MATERIAL		SIEVE SIZE															
		2-1/2"	2"	1-1/2"	1"	3/4"	1/2"	3/8"	No. 4	No. 8	No. 10	No. 16	No. 30	No. 40	No. 50	No. 100	
CRUSHER RUN AGGREGATE CR -6 (f)(g)		—	100	90–100	—	60–90	—	—	30–60	—	—	—	—	—	—	—	0–15
BANK RUN GRAVEL — SUBBASE		100	—	—	90–100	—	60–100	—	—	—	35–90	—	—	20–55	—	—	5–25
GRADED AGGREGATE — BASE DESIGN RANGE (a)		—	100	95–100	—	70–92	—	50–70	35–55	—	—	—	12–25	—	—	—	0–8
TOLERANCE (b)		—	-2	±5	—	±8	—	±8	±8	—	—	—	±5	—	—	—	±3(c)
BANK RUN GRAVEL — BASE		100	—	—	85–100	—	60–100	—	—	—	35–75	—	—	20–50	—	—	3–20
COARSE AGGREGATE — PORTLAND CEMENT CONCRETE	57 and UNDERDRAIN(h)	—	—	100	95–100	—	25–60	—	0–10	0–5	—	—	—	—	—	—	—
	67	—	—	—	100	90–100	—	20–55	0–10	0–5	—	—	—	—	—	—	—
	7	—	—	—	—	100	90–100	40–70	0–15	0–5	—	—	—	—	—	—	—
FINE AGGREGATE — PORTLAND CEMENT CONCRETE, UNDERDRAIN, and PNEUMATIC MORTAR (d)		—	—	—	—	—	—	100	95–100	—	—	45–85	—	—	5–30	0–10	—
COARSE AGGREGATE — LIGHTWEIGHT PORTLAND CEMENT CONCRETE		—	—	—	100	90–100	—	10–50	0–15	—	—	—	—	—	—	—	—
FINE AGGREGATE — LIGHTWEIGHT PORTLAND CEMENT CONCRETE (d)		—	—	—	—	—	—	100	85–100	—	—	40–80	—	—	10–35	5–25	—
FINE AGGREGATE/SAND MORTAR and EPOXIES (d)		—	—	—	—	—	—	—	100	95–100	—	—	—	—	—	0–25	0–10
MINERAL FILLER		—	—	—	—	—	—	—	—	—	—	—	100	—	95–100	—	70–100
CRUSHED GLASS (e)		—	—	—	—	100	—	—	0–55	—	—	45–85	—	—	—	0–10	—

(a) To establish target values for design.

(b) Production tolerance.

(c) ±2 for field grading. (omitting T 11)

(d) Fine aggregate includes natural or manufactured sand.

(e) Crushed glass shall not contain more than one percent contaminants by weight.

(f) Not to be used in the structural part of any Administration project.

(g) Recycled asphalt pavement may be used as a component not to exceed 15 percent and is not subject to aggregate physical property requirements in TABLE 901 B.

(h) When this material is used for drainage applications, recycled concrete shall not be used.

**TABLE 901 D**

608 **DELETE:** Note (b) in its entirety.

**INSERT:** The following.

- (b) PV shall be 5.5 when any aggregate being blended has a PV less than 5. Aggregate from no more than two sources may be blended. Proportions of blended aggregate shall be determined as specified in MSMT 416. Not applicable for Gap Graded surface mixes or any other surface mix requiring high polish aggregate.

**DELETE:** Note (e) in its entirety.

**INSERT:** The following.

- (e) PV shall be 9.0 when any aggregate being blended has a PV less than 8. When carbonate rock is used, it shall have a minimum of 25 percent insoluble residue retained on the No. 200 sieve.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

902 — PORTLAND CEMENT CONCRETE AND RELATED PRODUCTS

1 of 2

**CATEGORY 900  
MATERIALS**

**SECTION 902 — PORTLAND CEMENT  
CONCRETE AND RELATED PRODUCTS**

612 **DELETE:** 902.03 PORTLAND CEMENT in its entirety.

**INSERT:** The following.

**902.03 PORTLAND CEMENT.** Portland cement shall conform to M 85, with the fineness and the time of setting determined in conformance with T 153 and T 131, respectively.

**902.10.03 Portland Cement Concrete Mixtures.**

616 **DELETE:** Table 902 A in its entirety.

**INSERT:** The following.

**TABLE 902 A**

<b>PORTLAND CEMENT CONCRETE MIXTURES</b>									
MIX NO.	28 DAY SPECIFIED COMPRESSIVE STRENGTH	STANDARD DEVIATION	CRITICAL VALUE	MIN CEMENT FACTOR	COARSE AGGREGATE SIZE	MAX WATER/ CEMENT RATIO	SLUMP RANGE	TOTAL AIR CONTENT	CONCRETE TEMPERATURE
	psi	psi	psi	lb/yd <sup>3</sup>	M 43	by wt	in.	%	F
1	2500	375	2430	455	57, 67	0.55	2 — 5	5 — 8	70 ± 20
2	3000	450	3010	530	57, 67	0.50	2 — 5	5 — 8	70 ± 20
3	3500	525	3600	580	57, 67	0.50	2 — 5	5 — 8	70 ± 20
4	3500	525	3600	615	57, 67	0.55	4 — 8	N/A	70 ± 20
5	3500	525	3600	580	7	0.50	2 — 5	5 — 8	70 ± 20
6	4500	675	4770	615	57, 67	0.45	2 — 5	5 — 8	65 ± 15
7	4200	630	4420	580	57	0.50	1-1/2 — 3	5 — 8	70 ± 20
8	4000	600	4180	750	7	0.42	2 — 5	5 — 8	65 ± 15

Note 1: When concrete is exposed to water exceeding 15 000 ppm sodium chloride content, Type II cement shall be used. In lieu of a Type II cement, a Type I cement may be used in combined form with an amount of up to 50 percent replacement with ground iron blast furnace slag, or an amount of up to 25 percent replacement with Class F fly ash. The Contractor shall submit to the Engineer the proposed mix proportions and satisfactory test results in conformance with C 1012 showing a sulfate resistance expansion not exceeding 0.10 percent at 180 days.

Note 2: The temperature of Mix No. 6 when used for other than superstructure work as defined in TC-1.02 shall be 70 ± 0 F.

Note 3: Type A or D admixture shall be added to bridge, box culvert, and retaining wall concrete.

Note 4: Nonchloride Type C admixtures may be used when approved by the Engineer.

Note 5: Other Slump Requirements:

When a high range water reducing admixture Type F or Type G is specified, the slump shall be 4 to 8 in.

When synthetic fibers are specified, the slump shall be 5 in. maximum.

When concrete is to be placed by the slip form method, the slump shall be 2-1/2 in. maximum.



**SPECIAL PROVISIONS INSERT**

902 — PORTLAND CEMENT CONCRETE AND RELATED PRODUCTS

CONTRACT NO. ContNum

2 of 310

621 **DELETE:** 902.10.08 TESTING in its entirety.

**INSERT:** The following.

**902.10.08 Testing.** Sampling shall conform to T 141. Testing shall be performed as follows:

TEST	METHOD	MINIMUM TEST FREQUENCY	RESPONSIBILITY
Temperature (e)	T 309	<i>1 per 50 yd<sup>3</sup> (or fraction thereof)</i>	<i>Project Engineer</i>
Slump (a)(e)	T 119	1 per 50 yd <sup>3</sup> (or fraction thereof)	Project Engineer
Air Content (a)(e)	T 152 T 196	1 per 50 yd <sup>3</sup> (or fraction thereof)	Project Engineer
Compression (b)(c)(d)	T 23	1 per 50 yd <sup>3</sup> (or fraction thereof)	Project Engineer
Compression (b)(c)(d) Mix No. 7 Only	T 23	3 per Day	Project Engineer

- (a) A second test will be made when the first slump or air content test fails. Acceptance or rejection will be based on the results of the second test.
- (b) Compressive strength tests are defined as the average of two companion cylinders.
- (c) The Contractor shall be responsible for the making of all early break cylinders and furnishing the molds, stripping, curing/delivery of all cylinders, including 28 day cylinders, to the testing laboratory.
- (d) The Project Engineer will be responsible for making, numbering and signing the 28 day cylinders.
- (e) When constructing plain and reinforced concrete pavements, the testing frequency for slump, air content, and temperature shall be 1 per 100 yd<sup>3</sup> or fraction thereof.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

904 — PERFORMANCE GRADED ASPHALT BINDERS & HMA

1 of 10

**CATEGORY 900  
MATERIALS**

629 **DELETE:** SECTION 904 — PERFORMANCE GRADED ASPHALT BINDERS AND HOT MIX ASPHALT in its entirety.

**INSERT:** The following.

**SECTION 904 — PERFORMANCE GRADED  
ASPHALT BINDERS AND HOT MIX ASPHALT**

**904.01 CERTIFICATION.** The manufacturer and hauler shall furnish certifications as specified in TC-1.02 and the following:

The manufacturer shall also certify:

- (a) Date and time of loading.
- (b) Tank or blending system.
- (c) Identification of hauling unit.
- (d) Binder grade, temperature, and quantity of materials.
- (e) Complete certified analysis.
- (f) Lot number, if applicable.
- (g) Mixing and compaction temperatures.

The hauler shall also certify:

- (a) Identification of hauling unit.
- (b) Binder grade and source of last delivery.
- (c) The date of the last delivery using this hauling tank and volume of material remaining in the tank at the time of current loading.

**904.02 PERFORMANCE GRADED ASPHALT BINDERS.** Performance graded asphalt binders for mixes containing all virgin materials, recycled asphalt pavement materials, or roofing shingles from manufacturing waste shall conform to M 320, Table 1, for the specified performance grade. The asphalt binder recovered from the final plant mixed material will be





**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

904 — PERFORMANCE GRADED ASPHALT BINDERS & HMA

2 of 10

considered Rolling Thin Film Oven (RTFO) material and shall conform to M 320, Table 1 for the specified performance grade.

The performance graded binder shall be preapproved by the Administration. The Contractor shall submit a certificate of analysis showing conformance with the Performance Graded Binder Specification M 320 and the critical cracking temperature in conformance PP 42, Standard Practice for Determination of Low-Temperature Performance Grade (PG) of Asphalt Binder, for the binders specified in the Contract Documents.

The PG binder for HMA mixes shall be achieved by the use of Neat Asphalt with elastomer polymer modifications when needed.

**904.03 EMULSIFIED ASPHALTS.** Emulsified asphalts shall conform to M 140 or M 208 with the following exceptions:

- (a) Cement mixing tests are waived.
- (b) Grade SS-1 viscosity shall be 50 to 400 seconds at 77 F.
- (c) Maximum of 3.0 percent by volume of oil distillate.
- (d) The sieve test requirement for field samples shall be a maximum of 0.4 percent.

**904.04 HOT MIX ASPHALT (HMA).** Mixes shall be produced in a plant as specified in Section 915.

**904.04.01 Aggregates.** Aggregates shall conform to Section 901, and M 323 with the exception that the aggregate retained on the 4.75 mm sieve shall be tested for flat and elongated particles in conformance with D 4791. When recycled asphalt pavement is used in an HMA mix as defined in MSMT 412, it shall be considered an aggregate source.

**904.04.02 Mix Design.** The Contractor shall develop a Superpave mix design in conformance with R 35 except that “Table 1, Superpave Gyratory Compaction” shall be replaced with the following table:

DESIGN LEVEL	20-Year Design Traffic, ESALs	N <sub>design</sub>
1	<300,000	50
2	300,00 to <3,000,000	65
3	3,000,000 to <10,000,000	80
4	10,000,000 to <30,000,000	80
5	≥30,000,000	100

HMA Superpave mixes shall conform to the specification for Superpave Volumetric Mix Design, M 323, and shall be designed for the Equivalent Single Axle Loading (ESAL) range specified in the Contract Documents.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

904 — PERFORMANCE GRADED ASPHALT BINDERS & HMA

3 of 10

The Contractor may elect to use crushed, recycled asphalt pavement (RAP) material and a maximum of 5 percent roofing shingles from manufacturing waste. The allowable percentage and its suitability for use shall be determined in conformance with MSMT 412 and AASHTO M 323. When using less than 20 percent RAP, binder grade adjustments are not required.

Surface mixes using 20 percent or more RAP and base mixes using more than 25 percent RAP shall be tested and evaluated in accordance with AASHTO TP62: Determining Dynamic Modulus of Hot-Mix Asphalt Concrete Mixtures, to determine plant mixing capabilities. A demonstration strip or mix verification may be required before SHA project placement.

The use of RAP, not to exceed 10 percent, may be considered for applications where higher polish value aggregates are required and in mixes requiring elastomer type polymer binder. Approval for use shall be on an individual project basis by the Office of Materials Technology (OMT). Placement areas within the project limits shall be designated by OMT. These applications shall require isolated RAP stockpiles from an identified single source. Documentation of RAP stockpile management, quality, and traceability shall be submitted to the Engineer for approval prior to use.

Crushed glass shall not be used in surface mixes. Roofing shingles shall not be used in gap-graded mixes or mixes requiring elastomer type polymer binder.

**904.04.03 Mix Design Approval.** Documents containing the data from the Contractor's laboratory study shall be submitted to the Engineer for tentative approval at least 30 days prior to paving operations. The mix designs shall be submitted in a format approved by the Engineer and include the following:

- (a) Mix designation.
- (b) Source, percentage, and grade of performance graded asphalt binder.
- (c) Source, gradation, and proportion of each component aggregate.
- (d) Target aggregate gradation.
- (e) Plant where the HMA mix will be produced.
- (f) Plant target mixing temperature based on viscosity of 0.22 Pa·s.
- (g) Ratio of dust to binder material on effective asphalt.
- (h) Maximum specific gravity at the target binder content.
- (i) Mix design grading plotted on 0.45 power gradation chart.
- (j) Tensile strength ratio and worksheets.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

904 — PERFORMANCE GRADED ASPHALT BINDERS & HMA

4 of 10

- (k) The bulk specific gravity at  $N_{\text{design}}$  gyrations.
- (l) The air void content (percent  $V_a$ ) at  $N_{\text{design}}$  gyrations.
- (m) The voids in the mineral aggregate (percent VMA) and the voids filled with asphalt (percent VFA) at  $N_{\text{design}}$  gyrations (T 312).
- (n) All consensus and source properties.
  - (1) Coarse aggregate angularity.
  - (2) Flat and elongated.
  - (3) Sand equivalent.
  - (4) Uncompacted void content of fine aggregate.
  - (5) Bulk and apparent specific gravity of coarse and fine aggregate.
  - (6) Absorption of coarse and fine aggregate.

Mix designs submitted to the Division Chief for approval shall be accompanied by a quantity of job mix formula aggregate and appropriate amount of required PG binder for ignition oven calibration.

If previous construction or performance experience has shown the proposed mix design to be unsatisfactory, the Division Chief may require the Contractor to submit a more suitable design.

If the Contractor proposes to change the source of aggregate used in the mix, a revised mix design shall be submitted with the information required above and in 904.04.02. If a change in the Performance Grade binder source becomes necessary, a stripping test shall be conducted in conformance with MSMT 410, prior to approval. The Administration may require an antistripping additive test in conformance with D 4867 before giving the final approval.

**Field Verification of Mix Design.** After receiving the tentative approval for the mix design from the Asphalt Technology Division Chief representative, the Contractor shall conduct a field verification of the mix at the beginning of production in each plant. Field verification shall be performed by the certified personnel as specified in 504.03. The verification samples shall be prepared as specified in R 35. The Contractor shall notify the Engineer at least two working days in advance of the scheduled verification.

**Verification Evaluation.**



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

904 — PERFORMANCE GRADED ASPHALT BINDERS & HMA

5 of 10

- (a) Initial verification shall consist of four samples tested for the parameters listed in MSMT 735, Table 2. These samples shall be randomly drawn from the first day's production. If the first day of production is less than 2000 tons, the Contractor may choose to spread verification testing over the number of days needed to accumulate 2000 tons. A verification sample and test is required on any day that exceeds 2000 tons of production. The verification testing shall be completed no later than on the day when production has reached the 2000 tons. The Contractor shall evaluate the verification tests results as specified in MSMT 735.
- (b) If the mix produced by the plant conforms to the parameters listed in MSMT 735, Table 2 with the Percent Within Specification Limit (PWSL) a minimum of 85, production may proceed without any changes. If the Contractor has submitted mixes with identical aggregate combinations and differing asphalt contents associated with changes in ESAL loads, verification will be limited to volumetric analysis at the Engineer's discretion.
- (c) If the mix produced by the plant does not conform to the parameters listed in MSMT 735, Table 2 with PWSL a minimum of 85, then an adjustment to the asphalt content or gradation may be made to bring the mix design requirements within acceptable levels.

Permissible adjustment limitations between the approved Mix Design and Adjusted Mix Design is as follows:

TEST PROPERTY	PERMISSIBLE ADJUSTMENT % (*)
Larger than 1/2 in. (12.5 mm) sieve	± 5
1/2 in. (12.5 mm) thru No. 4 (4.75 mm) sieves	± 4
No. 8 (2.36 mm) thru No. 100 (1.50 µm) sieves	± 3
No. 200 (75 µm) sieve	± 1.0
Binder Content	± 0.20

\*The permissible adjustment for all mixes shall be within control points.

When an adjustment is made to the mix design, a second verification shall be performed to ensure that the modified mix conforms to all design requirements. The time and tonnage limitations shall be as specified in (a) above.

If the adjusted mix conforms to the PWSL, production may proceed. If the mix does not conform to these requirements, production for the mix shall be suspended and a new mix design shall be submitted to the Engineer for approval. The new mix shall be designed as specified in MSMT 412 or R 35.

If subsequent designs submitted due to nonconformance do not conform to (b) above during the initial verification, production for the mix shall be suspended until corrective action is taken as approved by the Engineer.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

904 — PERFORMANCE GRADED ASPHALT BINDERS & HMA

6 of 10

**Thin Lifts.** When specified lift thickness does not meet 3-times nominal maximum aggregate size for fine graded mix designs or 4-times nominal maximum aggregate size for coarse graded mix designs, the lift thickness shall be designated as a thin lift. Fine graded and coarse graded mix designs shall be determined in accordance with AASHTO M 323, Table 4, Gradation Classification and the table below.

**Thin Lift Mix Design Identification Table**

Mix Designation	Gradation Classification Control Sieve Mix Design Target (%Passing)	
	Fine Graded	Coarse Graded
4.75mm	A thin lift is a specified pavement thickness < 1 inch.	A thin lift is a specified pavement thickness < 1 inch.
9.5mm	When the 2.36mm (#8) is > or = 47%, a thin lift is a specified pavement thickness < 1 1/8 inches	When the 2.36mm (#8) is < 47%, a thin lift is a specified pavement thickness < 1 1/2 inches
12.5mm	When the 2.36mm (#8) is > or = 39%, a thin lift is a specified pavement thickness < 1 1/2 inches	When the 2.36mm (#8) is < 39%, a thin lift is a specified pavement thickness < 2 inches
19.0mm	When the 4.75mm (#4) is > or = 47%, a thin lift is a specified pavement thickness < 2 1/4 inches	When the 4.75mm (#4) is < 47%, a thin lift is a specified pavement thickness < 3 inches
25.0mm	When the 4.75mm (#4) is > or = 40%, a thin lift is a specified pavement thickness < 3 inches	When the 4.75mm (#4) is < 40%, a thin lift is a specified pavement thickness < 4 inches
37.5mm	When the 9.50mm (3/8) is > or = 47%, a thin lift is a specified pavement thickness < 4 1/2 inches	When the 9.50mm (3/8) is < 47%, a thin lift is a specified pavement thickness < 6 inches

**904.04.04 Antistripping Additives.** HMA shall have a minimum Tensile Strength Ratio (TSR) of 0.85 when tested in conformance with D 4867. The freeze-thaw conditioning cycle is required. HMA mixes not conforming to the minimum TSR requirement shall include an antistripping additive. When an antistripping additive is needed, the exact quantity shall be determined by the producer in conformance with D 4867 based on a minimum TSR of 0.85.

When a heat stable antistripping additive is used, the minimum dosage rate shall be 0.20 percent of the total weight of asphalt. The additive shall be introduced at the plant by line blending, metering, or otherwise measuring to ensure accurate proportioning and thorough mixing.

When hydrated lime is used, it shall be added in slurry form at the rate of 1.0 to 1.5 percent by weight of total aggregate. The hydrated lime shall conform to C 1097. Lime slurry shall be sprayed uniformly on the damp, cold aggregate on the feed belt prior to entry into the HMA plant dryer.

Plant control and acceptance of the mix shall be based on MSMT 410 with respect to its stripping potential.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

904 — PERFORMANCE GRADED ASPHALT BINDERS & HMA

7 of 10

**904.04.05 Plant Control.** The following tolerances shall apply:

**TABLE 904 A – MIX TOLERANCES**

PHYSICAL PROPERTY	TOLERANCE: PLANT SITE OR HAULING UNIT SAMPLES (b)	TOLERANCE: PROJECT SITE BEHIND THE PAVER SAMPLES (b)
Passing No. 4 (4.75 mm) sieve and larger, %	± 7	± 7
Passing No. 8 (2.36 mm) thru No. 100 (150 µm) sieve, %	± 4	± 5
Passing No. 200 (75 µm) sieve, %	± 2	± 2
Asphalt content, %	± 0.4	± 0.5
Ratio of dust to binder material	0.6 to 1.6 (a)	0.6 to 1.6 (a)
Mix temperature leaving plant versus mix design temperature, F	± 25	NA
Deviation of maximum specific gravity per lot versus design maximum specific gravity	±0.030	±0.040
Voids, total mix, (VTM), %	4.0 ± 1.2	4.0 ± 1.2
Voids, total mix, 4.75 mm mix (VTM), %	3 ± 2	3 ± 2
Voids in mineral aggregate, (VMA), %	± 1.2 from design target	± 1.2 from design target
Voids filled asphalt (VFA), %	Within spec	Within spec
Bulk specific gravity, $G_{mb}$ , %	± 0.022	± 0.022
$G_{mb}$ at $N_{max}$ , %	+ 0.5	+ 0.5

(a) Not applicable to 4.75 mm.

(b) For mixes other than Gap Graded HMA.

PWSL computations shall be performed for maximum specific gravity, voids in the total mix, voids in the mineral aggregate, and voids filled with asphalt. This computation shall be performed as specified in 504.04.02 using the moving average of the last three consecutive test values for each parameter. If the PWSL for the three test values fall below 85, corrective action shall be taken to bring the PWSL to at least 85. If the PWSL drops below 68, production shall be suspended until corrective action is taken as approved by the Engineer.

**904.05 GAP GRADED STONE MATRIX ASPHALT (GGSMA).**

**904.05.01 Aggregates.** Refer to 904.04.01.

**904.05.02 Mix Design.** Refer to 904.04.02 and the following table:



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

904 — PERFORMANCE GRADED ASPHALT BINDERS & HMA

8 of 10

**MIX TOLERANCES**

PHYSICAL PROPERTIES	MIX DESIGN
VCA* Mix, %	Less than $VCA_{dre}$
VMA, %	18.0 min.
VTM, %	3.5
$N_{design}$ Gyration	100
AC% by volume	6.5 min.
Draindown, % max	0.3
Stabilizer, by weight of total mix, %	0.2 – 0.4

\*VCA – voids in coarse aggregate.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

904 — PERFORMANCE GRADED ASPHALT BINDERS & HMA

9 of 10

**904.05.03 Mix Design Approval.** Refer to 904.04.03.

**MIX SHIPMENT AND PLACEMENT TOLERANCES FOR GGSMA**

PHYSICAL PROPERTY	TOLERANCE: PLANT SITE OR HAULING UNIT SAMPLES	TOLERANCE: PROJECT SITE BEHIND THE PAVER SAMPLES
Passing No. 3/8 (9.50 mm) sieve and larger, %	± 5	± 5
Passing No.4 (4.75 mm) sieve, %	± 4	±5
Passing No.8 (2.36 mm) sieve, %	± 4	±5
Passing No.16 (1.18 mm) sieve, %	± 4	± 5
Passing No.30 (0.60 mm) sieve, %	± 3	± 4
Passing No.50 (0.30 mm) sieve, %	± 3	± 4
Passing No.100 (0.15 mm) sieve, %	± 3	± 4
Passing No. 200 (75 µm) sieve, %	± 2	± 2
Asphalt content, %	± 0.4	± 0.5
Ratio of dust to binder material	NA	NA
Mix temperature leaving plant versus mix design temperature, F	± 25	NA
Deviation of maximum specific gravity per lot versus design maximum specific gravity	±0.030	±0.040
Voids, total mix, (VTM), %	3.5 ± 1.2	3.5 ± 1.2
Voids in coarse aggregate (VCA)	Less than VCA <sub>drc</sub>	Less than VCA <sub>drc</sub>
Voids in mineral aggregate, (VMA), %	17.0 min	17.0 min
Voids filled asphalt (VFA), %	NA	NA
Stabilizer, by weight of total mix, %	±0.1	NA

NOTE: PWSL computations shall be performed for maximum specific gravity, voids in the total mix, and voids in the mineral aggregate. This computation shall be performed as specified in 504.04.02 using the moving average of the last three consecutive test values for each parameter. If the PWSL for the three test values fall below 85, corrective action shall be taken to bring the PWSL to at least 85. If the PWSL drops below 68, production shall be suspended until corrective action is taken as approved by the Engineer.

**904.05.04 Stabilizer.** GGSMA shall incorporate a stabilizer selected from a source previously approved by the Administration.

**904.05.05 Stabilizer Supply System.** A separate system for feeding shall be used to proportion the required amount into the mixture so that uniform distribution is obtained.





**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

904 — PERFORMANCE GRADED ASPHALT BINDERS & HMA

10 of 10

When a batch plant is used, the stabilizer shall be added to the aggregate in the weigh hopper and both dry and wet mixing times shall be increased. The stabilizer shall be uniformly distributed prior to the addition of asphalt cement into the mixture. The plant shall be interlocked so that asphalt can not be added until the stabilizer has been introduced into the mix.

When a drum plant is used, the stabilizer shall be added to the mixture in a manner that prevents the stabilizer from becoming entangled in the exhaust system.

The stabilizer supply system shall include low level and no-flow indicators, and a printout of the status of feed rate in lb/minute and shall have a 60 second plant shut down function for no flow occurrences.

The stabilizer supply line shall include a section of transparent pipe for observing consistency of flow or feed.

All stabilizer addition systems shall be as approved by the Engineer.

**904.05.06 Antistripping Additives.** Refer to 904.04.04.



**SPECIAL PROVISIONS INSERT**  
905 — PIPE

CONTRACT NO. CH3505174  
1 of 8

**CATEGORY 900**  
**MATERIALS**

**SECTION 905 — PIPE**

638 **DELETE:** SECTION 905 — PIPE in its entirety.

**INSERT:** The following.

**905.01 CERTIFICATION.** The manufacturer shall furnish certification for all pipe as specified in TC-1.02

MATERIAL	SPECIFICATION	REMARKS
Non-reinforced Concrete Pipe	M 86, Class 3	—
Reinforced Concrete Pipe (RCP)	M 170, Class 4 & 5	All sizes - load bearing option only
Concrete End Sections	M 170	Class 3 pipe reinforcement required
Reinforced Concrete Elliptical Pipe	M 207	Load bearing option Horizontal installation only.
Reinforced Concrete Arch Culvert	M 206	—
Corrugated Polyethylene Pipe	M 294	12 in. to 48 in. diameter
Corrugated Polyethylene Drainage Pipe	M 252	Perforated underdrain and underdrain outlet pipe.
Polyvinyl Chloride (PVC) Profile Wall Pipe	M 304	4 in. to 48 in. diameter
Polyvinyl Chloride (PVC) Pipe	AASHTO Bridge Section 18 PVC Ribbed Pipe	—
	M 278	Underdrain outlet pipe
	M 278 (a)	Perforated underdrain
Preformed Rubber Joint for Circular Pipe	M 198, Type A	—
Corrugated Steel Pipe, Pipe Arches & Underdrain	M 36 (b), (c)	End finish shall be annular corrugations
Corrugated Aluminum Alloy Pipe	M 196 (b)	End finish shall be annular corrugations
Structural Plate for Pipe, Pipe Arches & Arches	M 167	—
Copper Pipe	Fed Spec WW – T-799, Type K	—
Polyethylene (PE) Precoated Corrugated Steel Pipe	M 245 & M 246	Minimum thickness 10 mil on each of the surfaces.
Concrete Drain Tile	M 178	—
Non-Asbestos Fiber-Cement Storm Drain Pipe	C 1450	12 in. to 48 in. diameter
Reinforced Concrete Low-Head Pressure Pipe	C 361	Pond spillways

(a) Perforations shall meet the requirements of F 758.

(b) Bands with dimples are prohibited.



*Maryland Department of Transportation*  
*State Highway Administration*

**SPECIAL PROVISIONS INSERT**  
**905 — PIPE**

CONTRACT NO. CH3505174  
2 of 8

(c) All Corrugated Steel Pipe shall be aluminum-coated Type 2 per M 274 unless otherwise specified.



**SPECIAL PROVISIONS INSERT**  
**905 — PIPE**

CONTRACT NO. CH3505174  
3 of 8

**905.02 CERTIFIED REINFORCED CONCRETE PIPE PLANTS.** RCP meeting the Specifications will be accepted on the manufacturer's certification based on the requirements outlined below. This includes the sampling, testing, documentation, and certification of the product by the manufacturer in combination with an Administration Monitoring Program.

**Initial Inspection.** Any plant initially setting up and starting production will be subjected to a comprehensive inspection to determine whether plant equipment and personnel meet all applicable Specifications and that suitable testing facilities are available. As a prerequisite to the comprehensive inspection the concrete pipe producer shall submit a Quality Control Plan (QCP) to the Administration for review and approval. The Administration will accept certification by a professional engineer registered in the State of Maryland that the plant facilities meet all applicable Specifications; however, final acceptance will be determined at the sole discretion of the Administration.

**905.02.01 Responsibilities of the Concrete Pipe Producer.** The concrete pipe producer shall be responsible for quality control of plant operations to insure that the component materials and finished product meet Specifications. The quality control process will be subject to unannounced periodic verification by representatives of the Engineer and annual comprehensive inspections. The plant's quality control personnel shall fully cooperate with the verification and annual comprehensive inspections. Failure of the plant's quality control personnel to fully cooperate with the verification and annual comprehensive inspections could result in the refusal of the Administration to accept for use or payment any of the products covered under this section.

The concrete pipe producer shall resubmit its QCP to the Engineer for approval prior to the annual comprehensive inspection. Any changes occurring after the QCP has been approved for any given year, shall be submitted as a supplement to the plan for approval before such changes may be implemented. The plan shall include the following items:

- (a) A statement that RCP shall meet the applicable portion of the pipe table under Section 905.
- (b) A thorough description of how the component materials and finished product will be stored and handled.
- (c) A description of quality control procedures that shall include the following:
  - (1) The names, qualifications, and responsibilities of the quality control personnel and the designation of a quality control manager.
  - (a) The list of quality control personnel shall also identify which persons will be responsible for final inspection and stamping of finished product prior to shipment.



**SPECIAL PROVISIONS INSERT**  
905 — PIPE

CONTRACT NO. CH3505174  
4 of 8

- (b) Each quality control person responsible for final inspection and stamping shall be assigned an identification number that they will stamp on each unit of finished product.
- (c) A copy of each stamp as it will appear on the finished product.
- (2) Sampling and testing methods and frequencies.
- (3) Method used for inspecting reinforcement cages prior to and during production.
- (4) Method of curing.
- (5) Method of maintaining accurate quality control records.
- (6) Samples of forms approved by the Administration.
- (7) Patching procedure.
- (8) Method of preparation of units for shipping.
- (9) Method of identification of each unit as tested and approved.
- (10) Procedures for conducting internal audits to verify that quality control personnel are adhering to QCP.

A lot is defined as a production run of concrete pipe, all being of like size, material, and strength designation and manufactured by the same process. The lot size may include up to 1000 units for 12 to 36 in., or 500 units for 42 in. and larger produced in not more than 14 days. The 14 days need not be consecutive, as long as they occur within a 30 consecutive day period and the process is not altered in any way between production days.

A three-edge bearing test to produce a 0.01 in. crack is required for each lot per M 170 section 5.1.1.

A minimum of one three-edge bearing test per year to ultimate load shall be performed on each size and class of pipe manufactured and shipped to Administration projects to verify that the applicable specified ultimate load can be achieved.

A minimum of one absorption test per year shall be performed on each size and class of pipe manufactured and shipped to Administration projects.

Additional absorption tests may be required at the sole discretion of the Engineer whenever there is a change in component material sources.



**SPECIAL PROVISIONS INSERT**  
905 — PIPE

CONTRACT NO. CH3505174  
5 of 8

The ultimate load test and absorption test shall be completed on the first lot of the year of that size and class pipe shipped to Administration projects.

The year may commence at any time the producer chooses; said date shall be stated in the QCP and may not occur any later than 90 calendar days after conclusion of the prior year as stated in the QCP for that year.

**905.02.02 Test Facilities.** The producer's facilities, equipment and quality control personnel shall be capable of conducting the tests per T 280 and shall be approved by the Engineer.

The producer shall maintain yearly calibration certificates on all equipment used for testing and produce said certificates for the Engineer's representative upon request.

The producer may elect to use the services of an independent commercial testing laboratory that is acceptable to the Engineer in lieu of conducting their own tests.

**905.02.03 Shipment.** Pipe may be shipped to the Administration's projects when the required testing for all pipes in the lot has been completed with acceptable results and all of the pipes to be shipped are at least the age of the test specimens at testing.

Each pipe shall be marked on the inside with the following information when shipped:

- (a) Plant name.
- (b) Plant location.
- (c) Size of pipe.
- (d) Class of pipe.
- (e) Date of manufacture.
- (f) Quality control stamp.
- (g) Quality control personnel number.

The quality control stamp shall be affixed to each unit shipped.

**905.02.04 Certification.** A manufacturer's certification shall accompany each shipment of pipe. A copy of the certification shall be delivered to the Engineer, the Administration's laboratory, and the Contractor for each shipment. One copy shall remain at the plant. The certification shall include the following;



**SPECIAL PROVISIONS INSERT**  
905 — PIPE

CONTRACT NO. CH3505174  
6 of 8

- (a) The plant name, address, and location.
- (b) Size and class of the pipe.
- (c) Date of manufacture and shipment.
- (d) Number of units.
- (e) Administration Contract number.
- (f) Statement of Specification compliance.
- (g) Signature and identification number of the quality control personnel that inspected the shipment. In the event that the certification document is signed by someone other than the person(s) who stamped any of the individual units, the name and identification number of those persons shall be shown on the certification.

**905.02.05 Records.** All testing and inspection documents shall be maintained at the production plant for a minimum of three years from the manufactured date and shall be made available to the Administration upon request. These records shall also include all compliance certificates and mill test reports for aggregates, cement, fly ash, joint material, reinforcing steel, and any other materials intended for use in products used on Administration projects.

**905.02.06 Quality Control Forms.** The producer shall maintain an Administration approved quality control form for all pipe produced for use on Administration projects. Each form, for each lot shall contain the following:

PIPE DIMENSIONS	REINFORCEMENT	TESTS	GENERAL INFORMATION
Diameter Length Wall Thickness Joint Style	Size Spacing Area-Spec & Test Results  Adequacy & Quality of Welds & Splices	Absorption Spec & Test Results Once per year  Visual Inspection	Plant Name Technician Signature Lot Identification Production Dates Pipe Class Units Per Lot  Material Sources Cement Fine Aggregate Coarse Aggregate Reinforcement
<b>EDGE BEARING</b>			
<b>THREE</b>			
0.01 in. Crack	Ultimate Strength		



**SPECIAL PROVISIONS INSERT**  
**905 — PIPE**

CONTRACT NO. CH3505174  
7 of 8

Strength Spec & Test Results	Spec & Test Results Once per year		
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**905.02.07 Responsibilities of the Administration.** Verification of certification will be performed at the discretion of the Administration a minimum of once per year.

The Administration reserves the right to discontinue acceptance of reinforced concrete pipe if its verification process indicates that the component materials, test procedures or finished pipe do not comply with the Contract Documents or QCP. In the event any verification inspection finds deficiencies in the finished pipe or the performance of the QCP the Administration will provide the producer a copy of a Non-Compliance Report (NCR) detailing the deficiencies and any remedial action the Administration may require that the producer undertake to resolve those deficiencies noted. The Administration will provide a period of up to 10 business days for the producer to address any deficiencies noted in the NCR; however, the sufficiency of any remedial action on the part of the producer will be at the sole discretion of the Administration to determine.

**905.03 CERTIFIED CORRUGATED POLYETHYLENE PIPE PLANTS.** Pipe meeting the Specifications will be accepted on the manufacturer's certification based on the requirements outlined below. This includes the sampling, testing documentation, and certification of the product by the manufacturer in combination with an Administration Monitoring Program.

**905.03.01 Responsibilities of the Corrugated Polyethylene Pipe Producer.** Submit a quality control plan to the Engineer for approval. The plan shall indicate the following:

- (a) The plan may be general, but shall be site specific.
- (b) The plan shall detail how the producer proposes to control the equipment, materials, and the production methods to ensure that products produced, meets the Specifications.
- (c) The plan shall list the personnel responsible for production and quality control at the site and include information on how to contact each person.
- (d) Identification of the physical location of the plant.
- (e) The method of identification of each lot of material during manufacture, testing, storage, and shipment.
- (f) The method of sampling and testing of raw materials and of the finished product, including lot sizes, type of material tests performed, and a description of equipment modifications or equipment developed in-house to perform the tests.





**SPECIAL PROVISIONS INSERT**  
905 — PIPE

CONTRACT NO. CH3505174  
8 of 8

- (g) A plan for dealing with quality control sample failures, that shall include how the producer plans to initiate an immediate investigation and what corrective action will be implemented to remedy the cause of the problem.
- (h) A lot is defined as a production run of polyethylene pipe, all being of like size, material, and manufactured by the same process. What determines lot size shall be stated in the Quality Control Plan (i.e. single day's production, 15 000 linear feet, etc.)

**905.03.02 Test Facilities.** The Certification Program requires all tests to be conducted at laboratories that are accredited by AASHTO or approved by the Administration. Each source may establish and maintain its own laboratory for the performance of quality control testing or may request to utilize an approved independent laboratory. The producer shall make a written request and have written approval from the Administration prior to having material tested off site. The equipment required for all approved laboratories shall be sufficient to perform the required test procedures as required by the applicable specification and standards such as M 252, M 294, and D 2412.

**905.03.03 Certification.** A manufacturer's certification shall accompany each shipment of pipe. A copy of the certification shall be delivered to the Engineer and the Contractor for each shipment. One copy shall remain at the plant. The certification shall include the following:

- (a) Plant name, address, and location.
- (b) Lot or production identification.
- (c) Date of manufacture and shipment.
- (d) Number of units of each size pipe or total linear feet of each size pipe.
- (e) Administration Contract number.
- (f) Statement of Specification compliance.
- (g) Signature of the quality control manager, or authorized representative (name shall be designated in the Quality Control Plan).

**905.03.04 Records.** All testing and inspection documents shall be maintained at the manufacturing facility for a minimum of three years from the manufactured date, and shall be made available to Administration personnel upon request.



**SPECIAL PROVISIONS INSERT**

905 — PIPE

CONTRACT NO. CH3505174

9 of 8

**905.03.05 Quality Control Forms.** The manufacturer shall maintain an Administration approved quality control form for all pipe produced on Administration projects that contain the following:

GENERAL INFORMATION	TESTS
Plant Identification QC Technician's Signature Lot Identification Production Dates Tubing/Pipe Dimension Perforation Dimensions Workmanship Identification Markings	Pipe Stiffness Pipe Flattening Elongation* Environmental Stress Cracking Brittleness Low Temperature Flexibility*

\*Type C or CP only.

**905.03.06 Responsibilities of the Administration.** The Administration will randomly conduct a minimum of one plant inspection per year with the cooperation and assistance of the producer to ensure compliance with the specifications and quality control requirements. Visual inspection will be made by the Engineer when pipe is received on the project. The Administration will verify the manufacturer's certification test results by sampling in accordance with the Administration's Frequency Guide.



**SPECIAL PROVISIONS INSERT**  
**908 — REINFORCEMENT STEEL**

CONTRACT NO. CH3505174  
1 of 1

**CATEGORY 900**  
**MATERIALS**

**SECTION 908 — REINFORCEMENT STEEL**

645 **DELETE:** 908.01 DEFORMED REINFORCEMENT in its entirety.

**INSERT:** The following.

**908.01 DEFORMED REINFORCEMENT.** Unless otherwise specified, reinforcement bars and reinforcement bars used as anchoring devices shall be deformed bars conforming to A 615 or A 706, Grade 60. Deformed bars shall be epoxy coated when specified in the Contract Documents. Epoxy powder shall conform to 917.02.

646 **DELETE:** 908.02 PLAIN REINFORCEMENT in its entirety.

**INSERT:** The following.

**908.02 PLAIN REINFORCEMENT.** Unless otherwise specified, dowel bars and dowel bars used as ties in PCC pavement expansion and contraction joints shall be plain round steel bars conforming to A 615, Grade 60 or A 36. Bars shall be epoxy coated. Epoxy powder shall conform to 917.02. All dowel bars used for traverse joints shall have a maximum pullout strength in conformance with M 254.

**DELETE:** 908.08 WIRE FABRIC FOR PNEUMATICALLY APPLIED MORTAR. in its entirety.

**INSERT:** The following.

**908.08 WIRE FABRIC FOR PNEUMATICALLY APPLIED MORTAR.** Wire fabric for pneumatically applied mortar and concrete encasement shall conform to A 185. It shall be fabricated either from size W1.4 wire on 3 in. centers in each direction or from W0.9 wire on 2 in. centers in each direction. It shall be galvanized as specified in 906.01.01.



**SPECIAL PROVISIONS INSERT**  
**915 — PRODUCTION PLANTS**

CONTRACT NO. CH3505174  
1 of 7

**CATEGORY 900**  
**MATERIALS**

**SECTION 915 — PRODUCTION PLANTS**

**915.01 GENERAL.** These specifications are applicable to all batching and proportioning plants.

668 **DELETE:** 915.01.01 Approval in its entirety.

**INSERT:** The following.

**915.01.01 Approval.** The plant from which the Contractor proposes to obtain material shall be approved by the Office of Materials Technology before starting deliveries.

667 **DELETE:** 915.01.02 Lead Time in its entirety.

**INSERT:** The following.

**915.01.02 Lead Time.** The Contractor shall notify the Office of Materials Technology at least two working days prior to the start of operations. The Office of Materials Technology shall be kept informed of plant operational procedures and notified when a change is planned. Inspectors shall have safe access to all areas of the plant for the performance of their duties. All equipment, tools, machinery, and parts of the plant shall be maintained in a satisfactory working condition at all times.

669 **DELETE:** 915.01.04 Measuring Devices in its entirety.

**INSERT:** The following.

**915.01.04 Measuring Devices.** Measuring devices shall conform to the current edition of the National Institute of Standards and Technology Handbook 44, except as modified by Table 915. The producer shall be responsible for providing all personnel and equipment for calibrating measuring devices.

Before any proportioning plant starts operation, and at least once each year thereafter, all measuring devices, meters, dispensers, test weights, and other measuring devices shall be inspected, tested, and certified to be in proper operating condition by competent testing agencies approved by the Engineer. During the period of operation, all measuring devices, meters, dispensers, and other measuring devices shall be tested monthly and certified for accuracy and operating condition by the producer or an approved testing agency. Any weighing device by which materials are sold by weight as a basis of payment shall be tested monthly and certified by an approved testing agency. The Engineer shall be notified at least two working days in advance of monthly scale



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

**915 — PRODUCTION PLANTS**

2 of 7

inspections. The certifications shall state capacities, minimum graduations, loads applied, degree of accuracy, and magnitude.

Balance and zero conditions of scales shall be checked daily, and at any other time requested by the Office of Materials Technology. The Engineer may, at any time, direct that any measuring device be tested by the producer or an outside agency if there is any doubt about the accuracy of the measuring device. Certificates of inspection shall be posted in a prominent place in the plant, and a copy shall be promptly submitted to the Engineer.

Production plant tolerances shall conform to the following table:

**TABLE 915**

<b>MATERIAL</b>	<b>*MAINTENANCE TOLERANCE</b>	<b>UNIT OF MEASURE</b>
Aggregate	0.2%	Weight
Portland Cement or Blended Hydraulic Cement of Ground Iron Blast Furnace Slag or Fly Ash	0.2%	Weight
Asphalt	0.2%	Weight or Volume
Water	1.5%	Weight or Volume
Additives	0.5%	Weight or Volume

\*Maintenance tolerance shall be the specified percent of the total capacity of the scale or the smallest scale graduation, whichever is greater.

If during the monthly check, the measuring devices are found to deviate from the allowable tolerance, they shall be suspended from use until recalibrated to the Specification requirements. A price adjustment will apply to materials sold and accepted by weight that are supplied during the measuring device malfunction period when the malfunction resulted in an overpayment. The measuring device malfunction period is defined as the elapsed time between the two successive monthly checks.



**SPECIAL PROVISIONS INSERT**  
**915 — PRODUCTION PLANTS**

CONTRACT NO. CH3505174  
3 of 7

671 **DELETE:** 915.02 Hot Mix Asphalt (HMA) Plants in its entirety.

**INSERT:** The following.

**915.02 HOT MIX ASPHALT (HMA) PLANTS.** All plants shall conform to M 156, and be equipped with Automatic Batching and Recording of Batching, except as modified in 915.01 and the following:

- (a) **Dryer.** The fuel used for drying aggregates shall be compatible with the plant manufacturer's recommendations.
- (b) **Hot Aggregate Bins.** Plants shall conform to M 156.
- (c) **Mixer Unit for Batch Method.** Minimum dry and wet mixing times shall be 5 seconds and 15 seconds, respectively.
- (d) Truck scale weighing shall conform to the National Institute for Standards and Technology (NIST), except as follows:
  - (1) A plant summary shall be kept by the producer showing the Contract number, truck identification (I.D.) number, I.D. of the type of mix being produced, the number of truck loads, and the total tons of mix.
  - (2) The producer shall supply a delivery ticket with the I.D. number, Contract number, I.D. of the type of mix, date, truck I.D. number, time loaded, gross and tare weights, and net weight of the mix for each load. When requested by the Engineer, the temperature of the mix shall also be shown on the delivery ticket.
- (e) **Automatic Weighing and Printout.** The producer shall use an approved plant automatic weighing and printing system. A printed delivery ticket for each load shall be provided with the cumulative total weighed into the truck, Contract number, time loaded, I.D. of the type of mix, and net weight of mix. When requested by the Engineer, the temperature of the mix shall also be shown on the delivery ticket. The temperature may be handwritten on the delivery ticket.
- (f) **Hauling Units.** The mixture shall be transported to the work site in units previously cleaned of all foreign material and the contents of each load completely covered with suitable material of sufficient size to protect it from the weather. Each unit shall have convenient access from ground level to insert thermometers to determine mix temperature.

The inside surface of all hauling units shall be treated with an approved release agent that will not contaminate or alter the characteristics of the mixture.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

**915 — PRODUCTION PLANTS**

4 of 7

Petroleum derivatives shall not be used. Approval will be based on results from tests performed in conformance with MSMT 414.

- (g) Drum mixer plants shall be calibrated per MSMT 453 and approved by the Engineer. A monitoring station for the purpose of controlling the entire operation shall be provided. If any part of this control system fails, an alternative control system approved by the Engineer may be used for a maximum of two working days.

The producer shall determine the moisture content of all aggregates per MSMT 251.

672 **DELETE:** 915.02.01 Certified Hot Mix Asphalt (HMA) Plant in its entirety.

**INSERT:** The following.

**915.02.01 Certified Hot Mix Asphalt (HMA) Plant.** The producer shall be responsible for quality control of plant operations to ensure that the material conforms to Specifications. The quality control process will be subject to unannounced periodic inspection by representatives of the Engineer when Administration projects are in progress. The plant's certified technician shall fully participate in the inspections.

**Initial Inspection.** Any plant initially setting up and starting production will be subject to a comprehensive inspection to determine whether the plant equipment and personnel conform to all applicable Specifications. The Administration will accept certification by a professional engineer registered in the State of Maryland that the plant facilities conform to all applicable Specifications; however, final acceptance will be determined by the Administration.

**Responsibilities of the HMA Producer.**

- (a) **Notification.** The producer shall notify the Engineer one working day prior to producing materials for Administration projects. Total tons shipped to Administration projects shall be reported within one business day of completed daily shipments.
- (b) **Quality Control.** The minimum sampling and testing frequencies and criteria necessary for quality control of the HMA is the responsibility of the producer. The producer shall develop and use a quality control plan acceptable to the Engineer which addresses all elements necessary for quality control in the plant.

The producer shall conduct the minimum sampling and testing as specified in MSMT 735, Table 2. The producer shall perform any additional sampling and testing when directed by the Engineer. The producer shall offer to the Engineer the opportunity to witness all sampling and testing.



**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

915 — PRODUCTION PLANTS

5 of 7

- (c) **Reports.** The producer's test results shall be furnished to the Engineer on documents approved by the Administration.

**Responsibilities of the Administration.**

- (a) **Split Samples to Evaluate the Effectiveness of the Plant Quality Control Operation.** A minimum of once during five days of plant shipments that require behind the paver Quality Assurance (QA) mixture box samples, a required QA sample shall be properly split and used to evaluate the effectiveness of the plant Quality Control (QC) operation. The plant QC operation shall test and submit results to the Administration in accordance with MSMT 735, Table 2, within 48 hours after receiving and properly splitting the sample.
- (1) **Effective Plant Quality Control Operation.** When QC and QA split sample results compare within AASHTO Acceptable Range of Two Test Results, Multi-Laboratory Precision parameters for binder content and percent passing the #4, #8, and #200 gradation sieves, the QC operation will be evaluated as effective.
- (2) **Ineffective Plant Quality Control Operation.** When QC and QA split sample results do not compare within AASHTO Acceptable Range of Two Test Results, Multi-Laboratory Precision parameters for all the indicated tests, the QC operation will be evaluated as ineffective. Three consecutive ineffective evaluations shall be cause to discontinue shipments to Administration projects. An investigation will be conducted to determine the cause of the differences. After a cause is determined and three consecutive split samples are within the precision parameters, the QC operation shall be re-evaluated as effective and shipments may resume. If the plant QC operation disagrees with the Administration's decision, the dispute may be resolved as specified in (e) below.
- (b) **Recertification of HMA Plant.** Documentation of corrective action shall be submitted to the Engineer by a professional engineer registered in the State of Maryland. When this documentation is approved by the Engineer, a comprehensive inspection will be conducted to recertify the HMA plant.
- (c) **Independent Assurance Audits (IAA).** The Administration will evaluate the proficiency and equipment of QC/QA Technicians through audits performed on a random basis as outlined in the Quality Assurance Manual. The technician being audited shall cooperate with the IAA Technician in the evaluation of their proficiency and equipment.
- (d) **Technician Certification.** Technician certification will be in conformance with MSMT 731 and the Mid-Atlantic Region Certification Program (MARTCP).





**SPECIAL PROVISIONS INSERT**

CONTRACT NO. CH3505174

**915 — PRODUCTION PLANTS**

6 of 7

- (e) **Dispute Resolution System.** This is a general procedure to resolve conflicts resulting from discrepancies between test results from the Engineer and producer, and nontest related disputes of sufficient magnitude to impact payment.

When a dispute arises, the producer or Engineer will file a written complaint to the Chief Engineer describing the nature of the dispute along with the pertinent information. The Chief Engineer will appoint a panel of three members to resolve the conflict. The panel will include a member selected by the asphalt industry. The panel will make recommendations to the Chief Engineer. The Chief Engineer will decide the disposition of the dispute based on the panel's recommendations.

A written report from the panel describing all subsequent actions and final disposition of the dispute shall be included in the project records.

If subsequent disputes arises on the same issue, the written report will be included as a resource during the resolution process.

**915.03 PORTLAND CEMENT CONCRETE PLANTS**

- 675 **DELETE:** 915.03.03 Load Tickets in its entirety.

**INSERT:** The following.

**915.03.03 Load Tickets.** An Administration approved, computer generated batch ticket indicating the pertinent information as designated in M 157 shall be provided in duplicate for each load. The ticket shall also indicate maximum allowable water, and maximum water allowed for jobsite slump adjustment. Distribution shall be made as specified in 915.03.05 (c)(2). The producer's copy shall be readily available for inspection upon request by the Engineer. A completed Administration Form 116 shall be issued for each load in the event a computer generated batch ticket cannot be provided.

- 678 **ADD:** The following after 915.03.05 Certified Concrete Plant.

**915.03.06 Moisture Probes.** Moisture probe readings may be used in place of actual daily moisture testing of fine aggregate. When used, moisture probes shall be calibrated and maintained in conformance with the manufacturer's recommendations. Actual moisture tests for the fine aggregate shall be performed weekly and as directed by the Engineer. When the actual tests of the fine aggregate indicate a difference of greater than 0.5 percent free moisture than the moisture probe readings, a second actual test shall be performed immediately. When the second test indicates a moisture difference of greater than 0.5 percent, then the moisture probe shall be recalibrated in conformance with the manufacturer's recommendations and verified. Records of all calibrations and weekly tests shall be maintained and made available to the Engineer.

**915.05 CERTIFIED PRECAST CONCRETE PLANTS.**



**SPECIAL PROVISIONS INSERT**  
**915 — PRODUCTION PLANTS**

CONTRACT NO. CH3505174  
7 of 7

681 **DELETE**: The first paragraph, “The producer shall...in the inspections.”

**INSERT**: The following.

All plants producing precast concrete items shall be certified by the National Precast Concrete Association. The producer shall be responsible for quality control plant operations to ensure that the material conforms to Specifications. The quality control process will be subject to unannounced periodic inspection by representatives of the Concrete Technology Division. The plant's certified technician shall fully participate in the inspections.

**915.05.01 Responsibilities of the Precast Concrete Producer.**

683 **DELETE**: (d) Quality Control Technician, in its entirety.

**INSERT**: The following.

**(d) Quality Control Technician.** The Quality Control Technician may be approved if certified from at least one of the following:

- (1)** The Precast/Prestressed Concrete Institute Plant Certification Program, PCI Technician Level I, minimum.
- (2)** American Concrete Institute, ACI Field Technician Level I.



**SPECIAL PROVISIONS INSERT**

916 — SOIL AND SOIL-AGGREGATE BORROW

CONTRACT NO. CH3505174

1 of 1

**CATEGORY 900  
MATERIALS**

**SECTION 916 — SOIL AND SOIL-AGGREGATE BORROW**

684 **DELETE:** 916.01.02 Capping Borrow in its entirety.

**INSERT:** The following.

**916.01.02 Capping Borrow.** Capping borrow shall conform to the select borrow requirements except when A-3 material has less than 10 percent retained on the No. 10 sieve, at least 15 percent shall pass the No. 200 sieve. Sieve analysis shall be determined in conformance with T 88.



**SPECIAL PROVISIONS INSERT**

917 — MISCELLANEOUS PROTECTIVE COATING

CONTRACT NO. CH3505174

1 of 5

**CATEGORY 900  
MATERIALS**

684 **DELETE:** SECTION 917 - EPOXY PROTECTIVE COATINGS in its entirety.

**INSERT:** The following.

**SECTION 917-MISCELLANEOUS PROTECTIVE  
COATINGS**

**917.01 EPOXY PROTECTIVE COATINGS FOR CONCRETE.** The protective coatings shall be two component epoxy systems for use in conjunction with concrete. One component shall be a clear or pigmented condensation product of the reaction of epichlorohydrin with bisphenol A, the resin of which shall be composed of 100 percent reactive constituents. The other component shall be a clear polyamide hardener.

The producer shall submit a sample of each component for laboratory analysis. The sample shall be coded as the original sample. The original and all subsequent samples shall conform to the following:

TEST PROPERTY	TEST METHOD	SPECIFICATION LIMITS
Pot Life, hr min	Fed. Spec TT-C-535	8
Color	Fed. Std. 595	Gray No. 26440
Dry Film Thickness 1st coat, mil min 2nd coat, mil min	D 1005	2 3
Sagging	D 4400	Must pass test for Recommended film Thickness
Flexibility	Federal Spec TT-P-115	Must not crack, check or delaminate
Infrared Spectrogram	Equipment Manufacturer's Procedure	Each component shall match original sample
Tensile Strength, psi min	MSMT 609	400

**917.02 FUSION BONDED EPOXY POWDER COATINGS FOR STEEL.** The epoxy protective coating shall be a one-coat, heat curable, thermosetting powdered coating that is electrostatically applied on metal surfaces as specified in the Contract Documents. For reinforcement steel, the color shall be bright, in order to contrast with the normal color of reinforcement and rust (e.g. orange, red, green, yellow etc. and not brown or any color in the rust family). If reinforcement steel is coated before fabrication, all hairline cracks and minor damage on fabrication bends shall be patched, even if there is no bond loss. The epoxy coating material



**SPECIAL PROVISIONS INSERT**

**917 — MISCELLANEOUS PROTECTIVE COATING**

CONTRACT NO. CH3505174

2 of 5

shall be selected from the pre-qualified materials list maintained by the Office of Materials and Technology.

Epoxy coatings shall conform to M 284.

**917.02.01 Touch Up System.** Material used for the touch up system shall be a two part epoxy system designated and color matched for patching the epoxy coating used.

Patching material shall be available through the manufacturer of the epoxy powder. The patching material shall be fully cured one hour after application at 35 F ambient.

**917.02.02 Certification.** The manufacturer shall furnish certification as specified in TC-1.02.

**917.03 FUSION BONDED POLYESTER POWDER.**

**917.03.01 Materials.** The polyester powder shall be a super durable TGIC (Triglycidyl Isocyanurate) polyester conforming to 917.03.05. The polyester powder shall be selected from the prequalified materials list maintained by the Office of Materials and Technology.

Material used for the touch up system shall be a two component aliphatic polyurethane conforming to 912.04.02, and color matched for patching the polyester coating used. The coating thickness of the touch up material shall be the same as the thickness of the polyester and can be applied in multiple coats.

**917.03.02 Cleaning and Coating.** Cleaning and coating shall be performed in an environmentally controlled plant that is fully enclosed and approved by the Administration.

All items to be coated shall be free of any oil or grease, and shall be abrasive blasted to Near White in conformance with SSPC SP-10. Cleaned surfaces shall be protected from high humidity, rainfall and surface moisture, and shall not be allowed to flash rust. The blast profile shall be 2 to 3 mils as determined in conformance with D 4417, Method C.

The thickness of the cured coating shall be  $7 \pm 2$  mils when measured in conformance with D 1186.

The cured coating shall have a pencil hardness of 2H when tested in conformance with D 3363.

The color of the coating shall match the Federal Standard 595 color number specified in the Contract Documents.

Using a 67-1/2 volt wet sponge detector, the polyester coating shall be checked for holidays, pinholes, and discontinuities. There shall be no more than one deficiency per 5 ft<sup>2</sup>.

**917.03.03 Acceptance.** The acceptance of a polyester powder will be based on the quality control test results required on the manufacturer's certification. The coating applicator shall be responsible for reviewing certifications to ensure conformance to 917.03.04. The coating applicator shall also maintain a file of all reviewed certifications.

**917.03.04 Certification.** The polyester powder manufacturer shall furnish production batch certification as specified in TC-1.02 showing conformance to the following:



**SPECIAL PROVISIONS INSERT**

**917 — MISCELLANEOUS PROTECTIVE COATING**

CONTRACT NO. CH3505174

3 of 5

TEST PROPERTY	TEST METHOD	SPECIFICATION LIMITS
Infrared Spectrogram	D 2621	Match prequalification sample
Taber Abrasion Resistance, mg loss, max	D 4060	100
Specific Gravity	D 5965 (Method A)	Prequalification sample $\pm$ 0.02
Color	E 1331 or E 1338	Match Fed. Std. 595 color no. specified in Contract Documents

**917.03.05 Polyester Prequalification Requirements.** The following physical tests will only be required to prequalify the polyester, and will not be required for certification:

TEST PROPERTY	TEST METHOD	SPECIFICATION LIMITS
Abrasion Resistance	Taber Abraser CS-10, 1000 gm load, 1000 cycles, D 1044	100 mg max weight loss
Adhesion	D 3359, Method A (Bonderite 1000 panel)	Rating 5A
Gloss	D 525, 60° initial	30 - 45 per Fed. Std 595
Hardness	D 3363	Min 2H - No gouge
Impact	D 2794	Pass 80 in.·lb
Salt Spray Resistance	B 117, D 1654 1000 hr (Bonderite 1000 panel)	Table 2, Rating 7
Thickness	G 12	7 $\pm$ 2 mils
Color	E 1331 or E 1338	As specified in the Contract Documents from Fed. Std. 595 Color No. 20040
Infrared Spectrogram	Equipment manufacture's procedures	Manufacturer's IR
Weather Resistance	D 4587, test condition D Test shall be conducted with a UVA lamp (340 nm peak) for 1000 hr	50 % min gloss retention
Specific Gravity	D 5965	Manufacturer's result

**917.04 DUPLEX ZINC-POLYESTER POWDER COATING SYSTEM.**

**917.04.01 Materials.**

Organic Zinc Rich Paint  
Fusion Bonded Polyester Coating  
and Touch Up System  
Hot Dip Galvanized Zinc

912.02.03

917.03

A 123 and A 153



**SPECIAL PROVISIONS INSERT**

**917 — MISCELLANEOUS PROTECTIVE COATING**

CONTRACT NO. CH3505174

4 of 5

This duplex system consists of a cathodic zinc layer applied by either the hot dip galvanizing process, or the application of an organic zinc rich paint and a barrier layer of polyester powder coating.

Prior to application of a duplex system, the applicator shall have demonstrated the ability to properly apply and cure the materials of the system.

Material used for the touch up system shall be a two component aliphatic polyurethane conforming to 912.04.02, and color matched for patching the polyester coating used. The coating thickness of the touch up material shall be the same as the thickness of the polyester and can be applied in multiple coats.

**917.04.02 Cleaning and Coating.** Cleaning and coating shall be performed in an environmentally controlled plant that is fully enclosed and approved by the Administration.

**Zinc Coating.**

**(a) Hot Dip Galvanized Method.** When a polyester powder is to be applied over hot dip galvanizing, the galvanized surface shall be prepared by solvent cleaning conforming to SSPC SP-1, followed by brush off blast cleaning using grit conforming to SSPC SP-7. The blast profile shall be 2 to 3 mils as determined in conformance with D 4417, Method C. When the blast cleaning exposes bare steel, the bare steel shall be spot primed with an organic zinc rich coating. The polyester powder shall be applied within 24 hours of surface preparation. The cured polyester powder shall conform to the requirements listed below.

**(b) Organic Zinc Rich Paint Method.** When a polyester powder is to be applied over an organic zinc rich paint, they shall be applied in a continuous operation. The surface shall be prepared by solvent cleaning conforming to SSPC SP-1, followed by abrasive blast cleaning using grit to a condition conforming to SSPC SP-10, Near White. The blast profile shall be 2 to 3 mils as determined in conformance with D 4417, Method C. The organic zinc rich paint shall be fully cured prior to application of the polyester powder. The thickness of the organic zinc rich paint shall be 3 to 5 mils as determined in conformance with D 1186.

**Polyester Coating.** The thickness of the polyester coating shall be 5 to 9 mils for methods (a) and (b) when measured in conformance with D 1186. The cured coating shall have a pencil hardness of 2H when tested in conformance with D 3363.

Material used for the touch up system shall be a two component aliphatic polyurethane conforming to 912.04.02, and color matched for patching the polyester coating used. The coating thickness of the touch up material shall be the same as the thickness of the polyester and can be applied in multiple coats.

The color of the coating shall match the Federal Standard 595 color number specified in the Contract Documents.



**SPECIAL PROVISIONS INSERT**

**917 — MISCELLANEOUS PROTECTIVE COATING**

CONTRACT NO. CH3505174

5 of 5

Using a 67-1/2 volt wet sponge detector, the polyester coating shall be checked for holidays, pinholes, and discontinuities. There shall be no more than one deficiency per 5 ft<sup>2</sup>.

**917.04.03 Acceptance.** The acceptance of an organic zinc rich paint shall conform to 912.01.03. The acceptance of a polyester powder shall conform to 917.03.03. The acceptance of hot dip galvanized zinc shall be based on inspections conforming to A 123, A 153, and the Contract Documents.

**917.04.04 Certification.** The certification of the polyester powder shall conform to 917.03.04. The certification of the organic zinc rich paint shall conform to 912.02.03.

**917.05 PAINT SYSTEM FOR NEW GALVANIZED STRUCTURES.**

**917.05.01 Materials.** All paint within the paint system shall be from the same manufacturer. The manufacturer shall be on the list of Approved Paint Manufacturers maintained by the Office of Materials and Technology. The paint shall conform to the following:

Primer Coat	912.03.02, 2 to 5 mils
Finish Coat	912.04.02, 2 to 4 mils
Color	Federal Standard 595
Brown	Color No. 20040
Black	Color No. 27038
Green	Color No. 24108

**917.05.02 Cleaning and Coating.** Cleaning and coating shall be performed in an environmentally controlled plant that is fully enclosed and approved by the Administration.

**917.05.03 Surface Preparation.** New galvanized steel shall not have been water or chromate quenched. The surface shall be solvent cleaned in conformance with SSPC SP-1 using a nonresidue solvent and a lint free cloth. The surface shall then be brush off blasted in conformance with SSPC SP-7 using grit. Any damaged areas shall be repaired in conformance with A 780. If repair is made using an organic zinc rich primer, the primer shall conform to 912.02.03.

**917.05.04 Paint Application.** If application of primer does not immediately follow the brush off blasting, each item shall be stored in an environment free of moisture and dust. The primer shall be applied in conformance with the manufacturer's recommendations within 12 hours of brush off blasting.

After the primer has properly cured, the finish coat shall be applied in conformance with the manufacturers' recommendation.

**917.05.05 Acceptance.** The finished painted surface shall be holiday free when tested with a low voltage holiday detector (minimum 30 volts), using tap water. If holidays are detected, the coatings may be repaired with additional coatings in conformance with A 780 or they may have the paint stripped and recoated at no additional cost to the Administration.





**CATEGORY 900  
MATERIALS**

**SECTION 920 — LANDSCAPING**

**920.01 TOPSOIL AND SUBSOIL.**

688 **DELETE:** 920.01.02 **Furnished Topsoil** in its entirety.

**INSERT:** The following:

**920.01.02 Furnished Topsoil.** Furnished topsoil shall be a homogenous mixture that has been stockpiled, sampled and tested as specified in MSMT 356, and stored as specified in 308.03.28 and 701.03.01 (d).

A copy of the soil test report shall be forwarded to:

State Highway Administration  
Soils & Aggregates Technology Division

The Soils and Aggregates Division (SATD) will review the soil test report to determine eligibility for Administration testing. When the soil test report is approved by SATD, a sample will be obtained by the Engineer for certification testing and recommendations.

Furnished topsoil shall be natural, friable surface soil uniform in color and texture, and shall not be supplied from the project. Furnished topsoil shall be free from any parts of Johnsongrass, Canada thistle, or Phragmites.

The Contractor shall submit certification to the Engineer that the furnished topsoil is delivered from a stockpile approved for the project, and such certification shall accompany the first load of topsoil delivered each day.

Furnished topsoil shall have an organic content between 1.5 to 10.0 percent by weight when tested as specified in T 194 and a corrected pH value of not less than 6.0 nor more than 7.5.

Grading analysis shall be as follows:

SIEVE SIZE	MIN PERCENT PASSING BY WEIGHT
2 in.	100
No. 4	90
No. 10	80



**SPECIAL PROVISIONS INSERT**  
**920 — LANDSCAPING**

CONTRACT NO. CH3505174  
2 of 4

Topsoil shall be analyzed for sand, silt, and clay as specified in T 88. Textural analysis shall be as follows:

SOIL PARTICLE SIZES mm	PERCENT PASSING BY WEIGHT
Sand (2.0 – 0.050)	20 – 75
Silt (0.050 – 0.002)	10 – 60
Clay (less than 0.002)	5 – 30

689 **DELETE: 920.01.03 Salvaged Subsoil** in its entirety.

**INSERT:** The following.

**920.01.03 Salvaged Subsoil.** Salvaged subsoil shall be the subsurface material directly below the topsoil to be salvaged from project, and which has been classified as subsoil as specified in the Contract Documents.

690 **DELETE: The title: 920.02 AGRICULTURAL LIMESTONE**

**INSERT:** New title: **920.02 LIMESTONE**

**DELETE: 920.03 FERTILIZER** in its entirety.

**INSERT:** The following.

**920.03 FERTILIZER.**

**920.03.01 Fertilizer.** Fertilizer shall be commercial grade conforming to State and Federal regulations and the standards of the Association of Official Analytical Chemists. All analyses are subject to approval by the Engineer prior to application.

Standard analyses shall be:

STANDARD FERTILIZER ANALYSES		
Analyses	Type	Composition
0-0-50	Granular	100% potassium sulfate (SOP)
5-20-20	Granular	Nitrogen, phosphorus and potassium
14-14-14	Granular	100% polymer-coated, controlled release nitrogen, phosphorus, and potassium with minor nutrients
15-30-15	Granular	Nitrogen, phosphorus and potassium
20-10-5	Tablet	Slow-release nitrogen with phosphorus, potassium and minor nutrients. 21 to 23 grams per unit.
20-16-12	Granular	83% of nitrogen from ureaform, 100% of phosphorus from monoammonium phosphate, and 100% of potassium from potassium sulfate
20-20-20	Soluble	100% water soluble nitrogen, phosphorus, and potassium with minor nutrients formulated for liquid application.
38-0-0	Granular	100% ureaform (UF) slow-release nitrogen fertilizer
11-52-0	Granular	100% monoammonium phosphate (MAP)



**SPECIAL PROVISIONS INSERT**  
**920 — LANDSCAPING**

CONTRACT NO. CH3505174  
3 of 4

**920.03.02 Gypsum.** Gypsum shall be an approved agricultural product manufactured and labeled for desalinizing and improving soil structure. Gypsum labeled as a fertilizer may also be used to supply calcium or sulfur as a plant nutrient.

**920.02.03 Iron Sulfate.** Iron sulfate shall be an approved horticultural product manufactured and labeled for increasing soil acidity (reducing soil pH). Iron sulfate labeled as a fertilizer may also be used to supply sulfur or iron as a plant nutrient.

**920.03.04 Sulfur.** Sulfur shall be an approved agricultural product manufactured and labeled for increasing soil acidity (reducing soil pH). Sulfur labeled as a fertilizer may also be used to supply sulfur as a plant nutrient. Sulfur shall be supplied as a granule or powder with a minimum purity of 90% elemental sulfur (S).

**920.04 SEED, SEED MIXES, AND SOD.**

694 **DELETE: 920.04.02 Seed Mixes** in its entirety.

**INSERT:** The following.

**(a) SHA Turfgrass Seed Mix**

90% Tall Fescue (Certified Seed Only)  
5% Kentucky Bluegrass (Certified Seed Only)  
5% Perennial Ryegrass (Certified Seed Only)

**(b) SHA Special Purpose Seed Mix**

75% Hard Fescue (Certified Seed Only)  
20% Chewings Fescue (Certified Seed Only)  
5% Kentucky Bluegrass (Certified Seed Only)

**(c) SHA Temporary Seed Mix**

95% Barley or Rye  
5% Foxtail Millet

**(d) SHA Cover Companion Seed Mix.** Cover Companion Seed Mix for use with Woody Shrub Seed Mix shall conform to 705.01.01 Regional Areas.

**REGION 1**

35% Tall Fescue  
35% Canada Bluegrass  
15% Redtop  
15% Birdsfoot trefoil (inoculant required)



**SPECIAL PROVISIONS INSERT**  
920 — LANDSCAPING

CONTRACT NO. CH3505174  
4 of 4

**REGIONS 2 & 3**  
30% Chewings Fescue  
30% Canada Bluegrass  
10% Redtop  
30% Sericea Lespedeza (inoculant required)

696 **920.04.03 Sod**

**DELETE:** The title: 920.04.03 Sod.

**INSERT:** New title: 920.04.03 Turfgrass Sod.



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

1 of 25

**STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
PROPOSAL FORM**

Proposal by \_\_\_\_\_  
Name

\_\_\_\_\_  
Address (Street and/or P.O. Box)

\_\_\_\_\_  
City State Zip

( ) ( )  
A.C. Phone No. A.C. Fax No.

to furnish and deliver all materials and to do and perform all work, in conformance with the Standard Specifications, revisions thereto, General Provisions and the Special Provisions in this contract to undertake the design, construction, operation and maintenance of one hundred (100) stormwater management facilities located along SHA highways located in, Charles County, Maryland, for which Invitation for Bids will be received until 12:00 o'clock noon on the 18th day of December, 2008, this work being situated as follows:

Charles County Design, Build, Operate and Maintain

To the State Highway Administration  
BID BOX  
7450 Traffic Drive  
Hanover, Maryland 21076

In response to the advertisement by the Administration, inviting bids for the work in conformance with the Contract Documents, now on file in the office of the Administration. I/We hereby certify that I/we am/are the only person, or persons, interested in this bid proposal as principals, and that an examination has been made of the work site, the Specifications, the Plans, and Invitation for Bids, including the Special Provisions contained herein. I/We propose to furnish all necessary machinery, equipment, tools, labor and other means of construction, and to furnish all materials required to complete the project at the following unit price or lump sum price.

## SCHEDULE OF PRICES

ITEM NO. CCS NO.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEMS	SECTION	UNIT PRICE		AMOUNTS	
				DOLLARS	CENTS	DOLLARS	CENTS
1001	LUMP SUM	YEAR 1 ROUTINE MAINTENANCE DESIGN/BUILD					
1002	LUMP SUM	YEAR 1 REMEDIAL MAINTENANCE DESIGN/BUILD					
1003	LUMP SUM	YEAR 1 RETROFIT DESIGN/BUILD					
1004	LUMP SUM	YEAR 2 ROUTINE MAINTENANCE DESIGN/BUILD					
1005	LUMP SUM	YEAR 2 REMEDIAL MAINTENANCE DESIGN/BUILD					
1006	LUMP SUM	YEAR 2 RETROFIT DESIGN/BUILD					

## SCHEDULE OF PRICES

ITEM NO. CCS NO.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEMS	SECTION	UNIT PRICE		AMOUNTS	
				DOLLARS	CENTS	DOLLARS	CENTS
1007	LUMP SUM	YEAR 3 ROUTINE MAINTENANCE DESIGN/BUILD					
1008	LUMP SUM	YEAR 3 REMEDIAL MAINTENANCE DESIGN/BUILD					
1009	LUMP SUM	YEAR 3 RETROFIT CONSTRUCTION DESIGN/BUILD					
1010	LUMP SUM	YEAR 3 PROJECT CLOSEOUT INSPECTIONS AND GIS UPDATES					

END OF CATEGORY NO. 1



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

3 of 25

**BUY AMERICAN STEEL**

The work under this proposal shall be in conformance with the Annotated Code of Maryland Article 21, Section 8-701 through 8-705 and Comar 21.11.02.

The bidder who elects to supply Domestic Steel Products need not complete this form.

However, the bidder who elects to supply steel of Foreign Manufacture must complete this form. When steel of Foreign Manufacture is proposed, the Contractor must include the costs of Domestic Steel.

American Steel must be utilized if the total cost of Domestic Steel (D) is less than the amount of a twenty percent (20%) increase to the total cost of Foreign Steel (F).

In reference to Section 21.11.02:

- A.)** Buy American Steel if the total cost of Domestic Steel (D) is less than the amount of a twenty percent (20%) increase to the total cost of Foreign Steel (F).

total cost (D)  $1.2 \times$  total cost (F)

- B.)** In a Substantial Labor Surplus Area, Buy American Steel if the total cost of Domestic Steel (D) is less than the amount of a thirty percent (30%) increase to the total cost of Foreign Steel (F).

total cost (D)  $1.3 \times$  total cost (F)

Structural Steel Items

Category Item No. _____		Description _____	
		Domestic	Foreign
Costs:	Furnishing	_____	_____
	Erection/Placement	_____	_____
	Inspection Cost	_____	_____
	Duties	_____	_____
	Transportation	_____	_____
	Other Costs	_____	_____
Total Item Cost		_____	_____





**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

4 of 25

Structural Steel Items

	Domestic	Foreign
Costs:		
Furnishing	_____	_____
Erection/Placement	_____	_____
Inspection Cost	_____	_____
Duties	_____	_____
Transportation	_____	_____
Other Costs	_____	_____
Total Item Cost	_____	_____

Structural Steel Items

	Domestic	Foreign
Costs:		
Furnishing	_____	_____
Erection/Placement	_____	_____
Inspection Cost	_____	_____
Duties	_____	_____
Transportation	_____	_____
Other Costs	_____	_____
Total Item Cost	_____	_____

Other Than Structural Steel items

	Domestic	Foreign
Costs:		
Furnishing	_____	_____
Erection/Placement	_____	_____
Inspection Cost	_____	_____
Duties	_____	_____
Transportation	_____	_____
Other Costs	_____	_____
Total Item Cost	_____	_____

Total Cost of All Steel Items D) \_\_\_\_\_ F) \_\_\_\_\_



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

5 of 25

**BID/PROPOSAL AFFIDAVIT**

**A. AUTHORIZED REPRESENTATIVE AND AFFIANT**

**I HEREBY AFFIRM THAT:**

I am the (title) \_\_\_\_\_ and the duly authorized representative of (business) \_\_\_\_\_ and that I possess the legal authority to make this Affidavit on behalf of myself and the business for which I am acting.

**B. CERTIFICATION REGARDING COMMERCIAL NONDISCRIMINATION**

The undersigned bidder or offeror hereby certifies and agrees that the following information is correct:

In preparing its bid on this project, the bidder or offeror has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not engaged in “discrimination” as defined in §19-103 of the State Finance and Procurement Article of the Annotated Code of Maryland. “Discrimination” means any disadvantage, difference, distinction, or preference in the solicitation, selection, hiring, or commercial treatment of a vendor, subcontractor, or commercial customer on the basis of race, color, religion, ancestry, or national origin, sex, age, marital status, sexual orientation, or on the basis of disability or any otherwise unlawful use of characteristics regarding the vendors, supplier’s or commercial customer’s employees or owners. “Discrimination” also includes retaliating against any person or other entity for reporting any incident of “discrimination”. Without limiting any other provision of the solicitation on this project, it is understood that, if the certification is false, such false certification constitutes grounds for the State to reject the bid submitted by the bidder or offeror on this project, and terminate any contract awarded based on the bid. As part of its bid or proposal, the bidder or offeror herewith submits a list of all instances within the past 4 years where there has been a final adjudicated determination in a legal or administrative proceeding in the state of Maryland that the bidder or offeror discriminated against subcontractors, vendors, suppliers, or commercial customers, and a description of the status or resolution of that determination, including any remedial action taken. Bidder or Offeror agrees to comply in all respects with the State’s Commercial Nondiscrimination Policy as described under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland.



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

6 of 25

**C. AFFIRMATION REGARDING BRIBERY CONVICTIONS**

**I FURTHER AFFIRM THAT:**

Neither I, nor to the best of my knowledge, information, and belief, the above business (as is defined in Section 16-101(b) of the State Finance and Procurement Article of the Annotated Code of Maryland), or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business's contracting activities has been convicted of, or has had probation before judgment imposed pursuant to Criminal Procedure Article, §6-220, Annotated Code of Maryland, or has pleaded nolo contendere to a charge of, bribery, attempted bribery, or conspiracy to bribe in violation of Maryland law, or of the law of any other state or federal law, except as follows (indicate the reasons why the affirmation cannot be given and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of person(s) involved, and their current positions and responsibilities with the business):

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**D. AFFIRMATION REGARDING OTHER CONVICTIONS**

**I FURTHER AFFIRM THAT:**

Neither I, nor to the best of my knowledge, information, and belief, the above business, or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business's contracting activities including obtaining or performing contracts with public bodies, has:

1. Been convicted under state or federal statute of:
  - (a) a criminal offense incident to obtaining, attempting to obtain, or performing a public or private contract; or
  - (b) fraud, embezzlement, theft, forgery, falsification or destruction of records, or receiving stolen property;
2. Been convicted of any criminal violation of a state or federal antitrust statute;
3. Been convicted under the provisions of Title 18 of the United States Code for violation of the Racketeer Influenced and Corrupt Organization Act, 18 U.S.C. §1961, et seq., or the Mail Fraud Act, 18 U.S.C. §1341, et seq., for acts in connection with the submission of bids or proposals for a public or private contract;



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

7 of 25

4. Been convicted of a violation of the State Minority Business Enterprise Law, Section 14-308 of the State Finance and Procurement Article of the Annotated Code of Maryland;
5. Been convicted of a violation of the Section 11-205.1 of the State Finance and Procurement Article of the Annotated Code of Maryland;
6. Been convicted of conspiracy to commit any act or omission that would constitute grounds for conviction or liability under any law or statute described in subsection (1) through (5) above;
7. Been found civilly liable under a state or federal antitrust statute for acts or omissions in connection with the submission of bids or proposals for a public or private contract;
8. Been found in a final adjudicated decision to have violated the Commercial Nondiscrimination Policy under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland with regard to a public or private contract; or
9. Admitted in writing or under oath, during the course of an official investigation or other proceedings, acts or omissions that would constitute grounds for conviction or liability under any law or statute described in Section B and subsections (1) through (7) above, except as follows (indicate reasons why the affirmations cannot be given, and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of the person(s) involved and their current positions and responsibilities with the business, and the status of any debarment):

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**CONTRACT PROVISIONS**  
**PROPOSAL FORM PACKET — STATE**

CONTRACT NO. CH3505174

8 of 25

**E. AFFIRMATION REGARDING DEBARMENT**

**I FURTHER AFFIRM THAT:**

Neither I, nor to the best of my knowledge, information, and belief, the above business, or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business's contracting activities, has ever been suspended or debarred (including being issued a limited denial of participation) by any public entity, except as follows (list each debarment or suspension providing the dates of the suspension or debarment, the name of the public entity and the status of the proceedings, the name(s) of the person(s) involved and their current positions and responsibilities with the business, the grounds of the debarment or suspension, and the details of each person's involvement in any activity that formed the grounds of the debarment or suspension):

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**F. AFFIRMATION REGARDING DEBARMENT OF RELATED ENTITIES**

**I FURTHER AFFIRM THAT:**

1. The business was not established and it does not operate in a manner designed to evade the application of or defeat the purpose of debarment pursuant to Sections 16-101, et seq., of the State Finance and Procurement Article of the Annotated Code of Maryland; and

2. The business is not a successor, assignee, subsidiary, or affiliate of a suspended or debarred business, except as follows (you must indicate the reasons why the affirmations cannot be given without qualification):

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**G. SUB-CONTRACT AFFIRMATION**

**I FURTHER AFFIRM THAT:**

Neither I, nor to the best of my knowledge, information, and belief, the above business, has knowingly entered into a contract with a public body under which a person debarred or suspended under Title 16 of the State Finance and Procurement Article of the Annotated Code of Maryland will provide, directly or indirectly, supplies, services, architectural services, construction related services, leases of real property, or construction.



**CONTRACT PROVISIONS**  
**PROPOSAL FORM PACKET — STATE**

CONTRACT NO. CH3505174

9 of 25

**H. AFFIRMATION REGARDING COLLUSION**

**I FURTHER AFFIRM THAT:**

Neither I, nor to the best of my knowledge, information, and belief, the above business has:

1. Agreed, conspired, connived, or colluded to produce a deceptive show of competition in the compilation of the accompanying bid or offer that is being submitted;
2. In any manner, directly or indirectly, entered into any agreement of any kind to fix the bid price or price proposal of the bidder or Offeror or of any competitor, or otherwise taken any action in restraint of free competitive bidding in connection with the contract for which the accompanying bid or offer is submitted.

**I. FINANCIAL DISCLOSURE AFFIRMATION**

**I FURTHER AFFIRM THAT:**

I am aware of, and the above business will comply with, the provisions of Section 13-221 of the State Finance and Procurement Article of the Annotated Code of Maryland, which require that every business that enters into contracts, leases, or other agreements with the State of Maryland or its agencies during a calendar year under which the business is to receive in the aggregate \$100,000 or more shall, within 30 days of the time when the aggregate value of the contracts, leases, or other agreements reaches \$100,000, file with the Secretary of State of Maryland certain specified information to include disclosure of beneficial ownership of the business.

**J. POLITICAL CONTRIBUTION DISCLOSURE AFFIRMATION**

**I FURTHER AFFIRM THAT:**

I am aware of, and the above business will comply with, Election Law Article, §§14-101—14-108, Annotated Code of Maryland, which requires that every person that enters into contracts, leases, or other agreements with the State of Maryland, including its agencies or a political subdivision of the State, during a calendar year in which the person receives in the aggregate \$100,000 or more shall file with the State Board of Elections a statement disclosing contributions in excess of \$500 made during the reporting period to a candidate for elective office in any primary or general election.



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

10 of 25

**K. DRUG AND ALCOHOL FREE WORKPLACE**

(Applicable to all contracts unless the contract is for a law enforcement agency and the agency head or the agency head's designee has determined that application of COMAR 21.11.08 and this certification would be inappropriate in connection with the law enforcement agency's undercover operations.)

**I CERTIFY THAT:**

1. Terms defined in COMAR 21.11.08 shall have the same meanings when used in this certification.
2. By submission of its bid or offer, the business, if other than an individual, certifies and agrees that, with respect to its employees to be employed under a contract resulting from this solicitation, the business shall:
  - (a) Maintain a workplace free of drug and alcohol abuse during the term of the contract;
  - (b) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of drugs, and the abuse of drugs or alcohol is prohibited in the business' workplace and specifying the actions that will be taken against employees for violation of these prohibitions;
  - (c) Prohibit its employees from working under the influence of drugs or alcohol;
  - (d) Not hire or assign to work on the contract anyone whom the business knows, or in the exercise of due diligence should know, currently abuses drugs or alcohol and is not actively engaged in a bona fide drug or alcohol abuse assistance or rehabilitation program;
  - (e) Promptly inform the appropriate law enforcement agency of every drug-related crime that occurs in its workplace if the business has observed the violation or otherwise has reliable information that a violation has occurred;
  - (f) Establish drug and alcohol abuse awareness programs to inform its employees about:
    - (i) The dangers of drug and alcohol abuse in the workplace;
    - (ii) The business' policy of maintaining a drug and alcohol free workplace;



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

11 of 25

(iii) Any available drug and alcohol counseling, rehabilitation, and employee assistance programs; and

(iv) The penalties that may be imposed upon employees who abuse drugs and alcohol in the workplace;

(g) Provide all employees engaged in the performance of the contract with a copy of the statement required by §J(2)(b), above;

(h) Notify its employees in the statement required by §J(2)(b), above, that as a condition of continued employment on the contract, the employee shall:

(i) Abide by the terms of the statement; and

(ii) Notify the employer of any criminal drug or alcohol abuse conviction for an offense occurring in the workplace not later than 5 days after a conviction;

(i) Notify the procurement officer within 10 days after receiving notice under §J(2)(h)(ii), above, or otherwise receiving actual notice of a conviction;

(j) Within 30 days after receiving notice under §J(2)(h)(ii), above, or otherwise receiving actual notice of a conviction, impose either of the following sanctions or remedial measures on any employee who is convicted of a drug or alcohol abuse offense occurring in the workplace:

(i) Take appropriate personnel action against an employee, up to and including termination; or

(ii) Require an employee to satisfactorily participate in a bona fide drug or alcohol abuse assistance or rehabilitation program; and

(k) Make a good faith effort to maintain a drug and alcohol free workplace through implementation of §J(2)(a)—(j), above.

3. If the business is an individual, the individual shall certify and agree as set forth in §J(4), below, that the individual shall not engage in the unlawful manufacture, distribution, dispensing, possession, or use of drugs or the abuse of drugs or alcohol in the performance of the contract.

4. I acknowledge and agree that:

12 of 25

05-08-08





**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

- (a) The award of the contract is conditional upon compliance with COMAR 21.11.08 and this certification;
- (b) The violation of the provisions of COMAR 21.11.08 or this certification shall be cause to suspend payments under, or terminate the contract for default under COMAR 21.07.01.11 or 21.07.03.15, as applicable; and
- (c) The violation of the provisions of COMAR 21.11.08 or this certification in connection with the contract may, in the exercise of the discretion of the Board of Public Works, result in suspension and debarment of the business under COMAR 21.08.03.

**L. CERTIFICATION OF CORPORATION REGISTRATION AND TAX PAYMENT**

**I FURTHER AFFIRM THAT:**

1. The business named above is a (domestic \_\_\_\_ ) (foreign \_\_\_\_ ) corporation registered in accordance with the Corporations and Associations Article, Annotated Code of Maryland, and that it is in good standing and has filed all of its annual reports, together with filing fees, with the Maryland State Department of Assessments and Taxation, and that the name and address of its resident agent filed with the State Department of Assessments and Taxation is (IF NOT APPLICABLE, SO STATE):

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

2. Except as validly contested, the business has paid, or has arranged for payment of, all taxes due the State of Maryland and has filed all required returns and reports with the Comptroller of the Treasury, the State Department of Assessments and Taxation, and the Department of Labor, Licensing, and Regulation, as applicable, and will have paid all withholding taxes due the State of Maryland prior to final settlement.



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

**M. CONTINGENT FEES**

**I FURTHER AFFIRM THAT:**

The business has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson, or commercial selling agency working for the business, to solicit or secure the Contract, and that the business has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson, or commercial selling agency, any fee or any other consideration contingent on the making of the Contract.

**N. REPEALED**

**O. ACKNOWLEDGEMENT**

**I ACKNOWLEDGE THAT** this Affidavit is to be furnished to the Procurement Officer and may be distributed to units of: (1) the State of Maryland; (2) counties or other subdivisions of the State of Maryland; (3) other states; and (4) the federal government. I further acknowledge that this Affidavit is subject to applicable laws of the United States and the State of Maryland, both criminal and civil, and that nothing in this Affidavit or any contract resulting from the submission of this bid or proposal shall be construed to supersede, amend, modify or waive, on behalf of the State of Maryland, or any unit of the State of Maryland having jurisdiction, the exercise of any statutory right or remedy conferred by the Constitution and the laws of Maryland with respect to any misrepresentation made or any violation of the obligations, terms and covenants undertaken by the above business with respect to (1) this Affidavit, (2) the contract, and (3) other Affidavits comprising part of the contract.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

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

By: \_\_\_\_\_  
(Authorized Representative and Affiant)



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

14 of 25

**COMPREHENSIVE SIGNATURE PAGE 1 OF 2**

THE BIDDER IS HEREBY NOTIFIED THAT THIS DOCUMENT SHALL BE SIGNED IN INK IN ORDER FOR THE BID TO BE ACCEPTED. BY SIGNING, THE BIDDER CERTIFIES THAT HE/SHE WILL COMPLY IN EVERY ASPECT WITH THESE SPECIFICATIONS.

FURTHER, I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT (PARAGRAPHS A-M) ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

This bid form shall be filled out legibly in ink or typed. The bid, if submitted by an individual, shall be signed by an individual; if submitted by a partnership, shall be signed by such member or members of the partnership as have authority to bind the partnership; if submitted by a corporation the same shall be signed by the President and attested by the Secretary or an Assistant Secretary. If not signed by the President as aforesaid, there must be attached a copy of that portion of the By-Laws, or a copy of a Board resolution, duly certified by the Secretary, showing the authority of the person so signing on behalf of the corporation. In lieu thereof, the corporation may file such evidence with the Administration, duly certified by the Secretary, together with a list of the names of those officers having authority to execute documents on behalf of the corporation, duly certified by the Secretary, which listing shall remain in full force and effect until such time as the Administration is advised in writing to the contrary. In any case where a bid is signed by an Attorney in Fact the same must be accompanied by a copy of the appointing document, duly certified.

**IF AN INDIVIDUAL:**

NAME: \_\_\_\_\_

\_\_\_\_\_  
Street and/or P.O. Box

\_\_\_\_\_  
City State Zip Code Fed ID or SSN

\_\_\_\_\_  
Signature (SEAL) Date

\_\_\_\_\_  
Print Signature

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

\_\_\_\_\_  
Print Signature



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

15 of 25

**COMPREHENSIVE SIGNATURE PAGE 2 OF 2**

**IF A PARTNERSHIP:**

NAME OF PARTNERSHIP: \_\_\_\_\_

\_\_\_\_\_  
Street and/or P.O. Box

\_\_\_\_\_  
City State Zip Code Fed ID or SSN

BY: \_\_\_\_\_ (SEAL) \_\_\_\_\_

Member Signature

Title

Date

\_\_\_\_\_  
Print Signature

TITLE: \_\_\_\_\_ WITNESS: \_\_\_\_\_

Signature

\_\_\_\_\_  
Print Signature

**IF A CORPORATION:**

NAME OF CORPORATION: \_\_\_\_\_

\_\_\_\_\_  
Street and/or P.O. Box

\_\_\_\_\_  
City State Zip Code Fed ID or SSN

STATE OF INCORPORATION: \_\_\_\_\_

BY: \_\_\_\_\_ (SEAL) \_\_\_\_\_

Signature

Date

\_\_\_\_\_  
Print Signature

TITLE: \_\_\_\_\_ WITNESS: \_\_\_\_\_

Secretary's Signature

\_\_\_\_\_  
Print Signature



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

16 of 25

**MBE UTILIZATION AFFIDAVIT**

**This document must be completed and included with your bid or initial price proposal. For competitive sealed bid procurements, if a bidder fails to submit this form with its bid, the procurement officer shall determine that the bid is not responsive. For competitive sealed proposal procurements, if an offeror fails to submit this form with its initial proposal, the procurement officer shall determine that the offer is not reasonably susceptible of being selected for award.**

1. In conjunction with the bid or offer submitted in response to Contract No. CH3505174,  
I affirm the following by checking either A or B:
  - A. ☐ I acknowledge that I will meet or exceed the overall certified Minority Business Enterprise (MBE) participation goal of \_\_\_\_ percent and, if specified in the solicitation, sub goals of \_\_\_\_ percent for MBEs classified as African American-owned and \_\_\_\_ percent for MBEs classified as women-owned. I have made a good faith effort to achieve this goal.
  - B. ☐ After having made a good faith effort to achieve the MBE participation goal, I conclude I am unable to achieve it. Instead, I intend to achieve MBE participation of \_\_\_\_ percent and , sub goals of \_\_\_\_ percent for MBEs classified as African American-owned and \_\_\_\_ percent for MBEs classified as Women-owned and request a waiver of the remainder of the goal. Within 10 business days of receiving notice that our firm is the apparent low bidder on a competitive sealed bid procurements or the apparent successful offeror on a competitive sealed proposal procurement, I will submit a written waiver request that complies with COMAR 21.11.03.11. In addition to any other requirements or information, the written waiver request will include documentation of all good faith efforts made prior to the opening of bids or proposals. I acknowledge that the MBE subcontractors/suppliers listed in the MBE Participation Schedule will be used to accomplish the percentage of MBE participation that I intend to achieve.
2. I have identified the specific commitment of certified MBEs by completing and submitting an MBE Participation Schedule with the bid or proposal.
3. I understand that if I am notified that I am the apparent low bidder or successful offeror, I must submit the following documentation within 10 business days of receiving such notice:
  - (a) OOC44
  - (b) OOC45
  - (c) OOC46 (if applicable)
  - (d) OOC49 Outreach Efforts Compliance Statement
  - (e) MBE Waiver Request per COMAR 21.11.03.11 (if applicable)



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

17 of 25

- (f) Any other documentation required by the Procurement Officer to ascertain bidder or offeror responsibility in connection with the certified MBE participation goal.

I acknowledge that if I fail to return each completed document within the required time, the Procurement Officer may determine that I am not responsible and therefore not eligible for contract award. If the contract has already been awarded, the award is voidable.

4. In the solicitation of subcontract quotations or offers, MBE subcontractors were provided not less than the same information and amount of time to respond as were non-MBE subcontractors.

I solemnly affirm under the penalties of perjury that the contents of this MBE Utilization Affidavit are true to the best of my knowledge, information, and belief.

\_\_\_\_\_  
Bidder / Offeror

\_\_\_\_\_  
Name Signature of Affiant

\_\_\_\_\_  
Address

\_\_\_\_\_  
Printed Name, Title

\_\_\_\_\_  
Date

**SUBMIT THIS AFFIDAVIT WITH BID/PROPOSAL**



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

18 of 25

**MBE PARTICIPATION SCHEDULE**

**This document must be completed and included with your bid or initial price proposal. For competitive sealed bid procurements, if a bidder fails to submit this form with its bid, the procurement officer shall determine that the bid is not responsive. For competitive sealed proposal procurements, if an offeror fails to submit this form with its initial proposal, the procurement officer shall determine that the offer is not reasonably susceptible of being selected for award.**

**PART I - Prime Contractor Data**

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

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

Telephone #: \_\_\_\_\_

Total Contract Amount: \$\_\_\_\_\_

Project # /Description: \_\_\_\_\_

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

**PART II – Minority Business Enterprise (MBE)/Disadvantaged Business Enterprise (DBE) Data**

**SUMMARY**

**TOTAL MBE PARTICIPATION:** \_\_\_\_\_ % \$ \_\_\_\_\_

**TOTAL AFRICAN AMERICAN MBE PARTICIPATION:** \_\_\_\_\_ % \$ \_\_\_\_\_

**TOTAL WOMAN OWNED MBE PARTICIPATION:** \_\_\_\_\_ % \$ \_\_\_\_\_



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

19 of 25

**MBE / DBE / WBE FIRMS IN THIS BID**  
(List information for each Certified MBE Subcontractor on this project)

MBE/DBE/WBE Name	Certification Number	Items of Work	\$ Amount	% of Contract
<b>TOTALS</b>				

There ☐ are ☐ are not additional entries on the next page titled Continuation Sheet.





**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

20 of 25

**Continuation Sheet**  
**MBE/DBE/WBE Listing**

(This page is only to be used if space is insufficient on previous page.)

<b>MBE/DBE/WBE Name</b>	<b>Certification Number</b>	<b>Items of Work</b>	<b>\$ Amount</b>	<b>% of Contract</b>
<b>Totals from Previous Page</b>				
<b>Totals for Contract</b>				



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

21 of 25

**INFORMATION REQUIRED TO BE SUBMITTED FOR STRAIGHT STATE CONTRACTS:**

**(a) Each bidder shall provide the following information:**

NAME OF FIRM: \_\_\_\_\_

\_\_\_\_\_  
Street and/or P.O. Box

\_\_\_\_\_  
City

\_\_\_\_\_  
State

\_\_\_\_\_  
Zip Code

\_\_\_\_ MBE \_\_\_\_ Non-MBE      Age of the firm \_\_\_\_ years

Annual gross receipts per last calendar year \_\_\_\_ <\$500,000 \_\_\_\_ \$500,000-1,000,000

\_\_\_\_ \$1,000,000-3,000,000 \_\_\_\_ \$3,000,000-5,000,000 \_\_\_\_ \$5,000,000-10,000,000

\_\_\_\_ >\$10,000,000

**(b) Each bidder shall provide the following information for each firm quoting or considered as subcontractors:**

NAME OF FIRM: \_\_\_\_\_

\_\_\_\_\_  
Street and/or P.O. Box

\_\_\_\_\_  
City

\_\_\_\_\_  
State

\_\_\_\_\_  
Zip Code

\_\_\_\_ MBE \_\_\_\_ Non-MBE      Age of the firm \_\_\_\_ years

Annual gross receipts per last calendar year \_\_\_\_ <\$500,000 \_\_\_\_ \$500,000-1,000,000

\_\_\_\_ \$1,000,000-3,000,000 \_\_\_\_ \$3,000,000-5,000,000 \_\_\_\_ \$5,000,000-10,000,000

\_\_\_\_ > \$10,000,000

NAME OF FIRM: \_\_\_\_\_

\_\_\_\_\_  
Street and/or P.O. Box

\_\_\_\_\_  
City

\_\_\_\_\_  
State

\_\_\_\_\_  
Zip Code

\_\_\_\_ MBE \_\_\_\_ Non-MBE      Age of the firm \_\_\_\_ years

Annual gross receipts per last calendar year \_\_\_\_ <\$500,000 \_\_\_\_ \$500,000-1,000,000

\_\_\_\_ \$1,000,000-3,000,000 \_\_\_\_ \$3,000,000-5,000,000 \_\_\_\_ \$5,000,000-10,000,000

\_\_\_\_ > \$10,000,000



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

22 of 25

NAME OF FIRM: \_\_\_\_\_

\_\_\_\_\_  
Street and/or P.O. Box

\_\_\_\_\_  
City

\_\_\_\_\_  
State

\_\_\_\_\_  
Zip Code

\_\_\_\_ MBE \_\_\_\_ Non-MBE      Age of the firm \_\_\_\_ years

Annual gross receipts per last calendar year \_\_\_\_ <\$500,000 \_\_\_\_ \$500,000-1,000,000

\_\_\_\_ \$1,000,000-3,000,000 \_\_\_\_ \$3,000,000-5,000,000 \_\_\_\_ \$5,000,000-10,000,000

\_\_\_\_ > \$10,000,000

NAME OF FIRM: \_\_\_\_\_

\_\_\_\_\_  
Street and/or P.O. Box

\_\_\_\_\_  
City

\_\_\_\_\_  
State

\_\_\_\_\_  
Zip Code

\_\_\_\_ MBE \_\_\_\_ Non-MBE      Age of the firm \_\_\_\_ years

Annual gross receipts per last calendar year \_\_\_\_ <\$500,000 \_\_\_\_ \$500,000-1,000,000

\_\_\_\_ \$1,000,000-3,000,000 \_\_\_\_ \$3,000,000-5,000,000 \_\_\_\_ \$5,000,000-10,000,000

\_\_\_\_ > \$10,000,000

NAME OF FIRM: \_\_\_\_\_

\_\_\_\_\_  
Street and/or P.O. Box

\_\_\_\_\_  
City

\_\_\_\_\_  
State

\_\_\_\_\_  
Zip Code

\_\_\_\_ MBE \_\_\_\_ Non-MBE      Age of the firm \_\_\_\_ years

Annual gross receipts per last calendar year \_\_\_\_ <\$500,000 \_\_\_\_ \$500,000-1,000,000

\_\_\_\_ \$1,000,000-3,000,000 \_\_\_\_ \$3,000,000-5,000,000 \_\_\_\_ \$5,000,000-10,000,000

\_\_\_\_ > \$10,000,000

**Submit additional copies of this page as page 22A of 25, 22B of 25, etc. as necessary, and place them as the last pages in the Invitation for Bids. Place an "X" for "NO" on the last copy. Any additional Copies: \_\_\_\_\_ NO \_\_\_\_\_ YES**



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

23 of 25

**EXTRA WORK, CONTRACT TIME, BONDING, LIQUIDATED DAMAGES, AND  
PROPOSAL GUARANTY**

**EXTRA WORK.** It is further proposed to do all "Extra Work" which may be required to complete the work contemplated at unit prices or lump sum prices to be agreed upon in writing prior to starting such extra work, or if such prices or sums cannot be agreed upon, to perform such work on a Force Account basis as specified in TC-7.03.

**CONTRACT TIME.** To commence work as specified in the "Notice to Proceed" and to prosecute the work to complete the contract within/or before

\_\_\_\_\_ (working days)

\_\_\_\_\_ (calendar date)

Any delay in awarding or the execution of this contract will not be considered as a basis for any monetary claim, however, an extension of time may be considered by the Administration, if warranted.

**BONDING.** When the Contractor's bid is \$100,000 or more, the Contractor shall furnish a Payment Bond and a Performance Bond in the full amount of the Contract Award as security for the construction and completion of the contract in conformance with the Plans, Standard Specifications, revisions thereto, General Provisions and Special Provisions.

To guarantee all of the work performed under this contract to be done in conformance with the Standard Specifications, revisions thereto, General Provisions and Special Provisions in a good workmanlike manner and to renew or repair any work which may be rejected due to defective materials or workmanship, prior to final completion and acceptance of the work, also we have the equipment, labor, supervision and financial capacity to perform this contract either with our organization or with Subcontractors.



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

24 of 25

**LIQUIDATED DAMAGES.** The Contractor is hereby advised that liquidated damages in the amount of

\_\_\_\_\_ dollars (\_\_\_\_\_) per working day

\_\_\_\_\_ dollars (\_\_\_\_\_) per calendar day

will be assessed for unauthorized extensions beyond the contracted time of completion.

**PROPOSAL GUARANTY.** A bid security is not required on Contract Proposals under \$100,000.

A bid security totaling at least five percent (5%) of the bid amount will be required on contracts of \$100,000 or over.

Acceptable forms of security for bid guaranty shall be:

- (1) A bond in a form satisfactory to the State underwritten by a company licensed to issue bonds in this State;
- (2) A bank certified check, bank cashier's check, bank treasurer's check, or cash;
- (3) Pledge of security backed by the full faith and credit of the United States government or bonds issued by the State of Maryland.

Enclosed herewith, find bid security based on at least five percent (5%) of the aggregate amount of the bid submitted, and made payable to the "State of Maryland". This bid security is a Proposal Guarantee (which is understood will be forfeited in the event the contract is not executed, if awarded to the signer of this affidavit).



**CONTRACT PROVISIONS**  
PROPOSAL FORM PACKET — STATE

CONTRACT NO. CH3505174

**Commercial Nondiscrimination**

A. As a condition of entering into this Agreement, Contractor represents and warrants that it will comply with the State's Commercial Nondiscrimination Policy, as described under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland. As part of such compliance, Contractor may not discriminate on the basis of race, color, religion, ancestry or national origin, sex, age, marital status, sexual orientation, or on the basis of disability or other unlawful forms of discrimination in the solicitation, selection, hiring, or commercial treatment of subcontractors, vendors, suppliers, or commercial customers, nor shall Contractor retaliate against any person for reporting instances of such discrimination. Contractor shall provide equal opportunity for subcontractors, vendors, and suppliers to participate in all of its public sector and private sector subcontracting and supply opportunities, provided that this clause does not prohibit or limit lawful efforts to remedy the effects of marketplace discrimination that have occurred or are occurring in the marketplace. Contractor understands that a material violation of this clause shall be considered a material breach of this Agreement and may result in termination of this Agreement, disqualification of Contractor from participating in State contracts, or other sanctions. This clause is not enforceable by or for the benefit of, and creates no obligation to, any third party.

B. As a condition of entering into this Agreement, upon the Maryland Human Relations Commission's request, and only after the filing of a complaint against Contractor under Title 19 of the State Finance and Procurement Article, as amended from time to time, Contractor agrees to provide within 60 days after the request a complete list of the names of all subcontractors, vendors, and suppliers that Contractor has used in the past 4 years on any of its contracts that were undertaken within the state of Maryland, including the total dollar amount paid by Contractor on each subcontract or supply contract. Contractor further agrees to cooperate in any investigation conducted by the State pursuant to the State's Commercial Nondiscrimination Policy as set forth under Title 19 of the State Finance and Procurement Article of the Annotated Code of Maryland, and to provide any documents relevant to any investigation that is requested by the State. Contractor understands that violation of this clause is a material breach of this Agreement and may result in contract termination, disqualification by the State from participating in State contracts, and other sanctions.