



# Augusta County, Virginia

## Notice of Invitation for Bids - Fixed Completion Date

**Issued Date:** February 6, 2023

**IFB #:** 81010-23-02

**Project Title:** Improvements to the Crimora Recreational Park

**Work Site:** Crimora Park, Crimora, VA

Sealed Bids for this project will be received at the location stated below subject to the Conditions cited herein until 2:00 p.m. local time **March 9, 2023** for a Class A Contractor to furnish all labor, and equipment necessary to complete the project known as Improvements to the Crimora Recreational Park in Augusta County pursuant to the scope of work and specifications as specified.

**Mandatory Contract Completion Date:**

**90 calendar days from Notice to Proceed**

All potential Bidders are herein given notice that the County will be conducting an **Optional Pre-Bid Conference** to be held at the work site on **Thursday February 23, 2023, at 2:00 p.m.** All bidders are to meet at 2:00 p.m. at the parking area west of the Community Center (parking lot entrance is approximately 225 ft west of the intersection of Kay Frye Ln and New Hope and Crimora Road. Bidders needing additional information should contact the Bid Officer.

Location to Submit Bids:

Elana Sorrell, VCO  
Finance Office  
18 Government Center Lane  
PO Box 590  
Verona, VA 24482

Additional copies of this Notice may be obtained along with the complete Invitation for Bid by contacting the Bid Officer :

Elana Sorrell, VCO  
Finance Office  
540-245-5741 ext. 1  
esorrell@co.augusta.va.us

All requests for additional information should be provided in writing by means of a Pre-Bid Question Form included in this RFP. The Pre-Bid Question Form must be directed to the Bid Officer.

Note: This public body does not discriminate against faith-based organizations in accordance with the Code of Virginia, § 2.2-4343.1 or against a bidder or offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.

# Augusta County, Virginia

## PROPOSED SCHEDULE OF EVENTS CHECKLIST

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### Schedule of Events:

1. Advertise and mail solicitations: February 6, 2023
2. Non-Mandatory Pre-Bid Conference: February 23, 2023 at 10:00 a.m.
3. Last Date to Submit Written Questions March 3, 2023 at 4:00 p.m.
4. Bid Due Date/Opening: March 9, 2023 at 2:00 p.m.
5. Review Initial Lowest Bid: March 13, 2023
6. Submit Lowest Bid for Board Approval March 13, 2023
7. Notice of Decision to Award March 23, 2023
8. Awarding of Bid and Contract Signing: April 3, 2023
9. Notice to Proceed April 3 , 2023
10. Contract Completion Date: NLT September 30, 2023

# Augusta County, Virginia

## Instruction to Bidders

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**The Invitation For Bids (IFB)** consists of the Notice, this Instruction To Bidders, the Bid Form, the Pre-Bid Question Form, the proposed Construction Contract with General Conditions, the Special Conditions (if any), the Scope of Work as described by the Plans and Specifications, other documents listed in the Specifications including any applicable forms to be used, and any addenda which may be issued, specifically including any report from a Pre-Bid Conference, all of which request qualified Bidders to submit competitive prices or bids for providing the described work on the project.

**1. CONDITIONS AT SITE OR STRUCTURE:** Bidders shall visit the site and shall be responsible for ascertaining pertinent local conditions such as location, accessibility, general character of the site or building, and the character and extent of existing work within or adjacent to the site. Claims, as a result of failure to have done so, will not be considered by the County.

**2. EXPLANATIONS TO BIDDERS:** No oral explanation in regard to the meaning of drawings and specifications will be made and no oral instructions will be given before the award of the contract. Discrepancies, omissions or doubts as to the meaning of any IFB document, drawings or specifications shall be communicated in writing to the designated Bid Officer for interpretation. Bidders should use the "Pre-bid Question Form" provided in the bid documents. Bidders must so act to assure that questions reach the Bid Officer at least six (6) business days prior to the time set for the receipt of bids to allow a sufficient time for an addendum to reach them before the submission of their bids. If, however, there are two (2) weeks or less between the first bid advertisement and the time set for receipt of bids, then bidders must submit questions so that they reach the Bid Officer no later than three (3) business days prior to the time set for receipt of bids. Any interpretation made will be in the form of an addendum to the IFB which will be forwarded to all Bidders, and its receipt shall be acknowledged by the Bidder on the Bid Form.

**3. TIME FOR COMPLETION:**

(a) The Contract Completion Date will be designated by the County in the Notice to Proceed in one of the following manners:

(1) If the County specified a mandatory Contract Completion Date in the Invitation for Bid, the date designated in the Notice to Proceed will be no later than that date, or

(2) If a mandatory Contract Completion Date was absent from the Invitation for Bid, the Contract Completion Date designated in the Notice to Proceed will be determined through the bidding process taking into account the Contractor's proposed Time for Completion.

(b) Unless otherwise specified, the Contractor shall achieve Final Completion within thirty (30) days after the date of Substantial Completion.

(c) The Contractor, in preparing and submitting their bid, is required to take into consideration normal weather conditions. Normal weather does not mean statistically average weather, but rather means a range of weather conditions which might be anticipated (*i.e.*, conditions which are not extremely unusual). Normal weather conditions shall be determined from the public historical records available for the Augusta County area, including the U.S. Department of Commerce, Local Climatological Data Sheets, Oceanic and Atmospheric Administration/Environmental Data and Information Service, National Climatic Center and the National Weather Service. No additional compensation will be paid to the Contractor because of

adverse weather conditions; however, an extension of time for abnormal weather will be considered by the County as indicated in the General Conditions.

#### 4. PREPARATION AND SUBMISSION OF BIDS:

- (a) Bids shall be submitted on the forms furnished, or copies thereof, and shall be signed in ink. Erasures or other changes in a bid must be explained or noted over the signature of the bidder. Bids containing any conditions, omissions, unexplained erasures, alterations or items not called for in the proposal, or irregularities of any kind, may be rejected by the County as being incomplete or non-responsive.
- (b) Each bid must give the complete legal name and full business address of the Bidder and be signed by the Bidder, or the Bidder's authorized representative, with their usual signature. Bids by partnerships must be signed in the partnership name by one of the general partners of the partnership or an authorized representative, followed by the designation/title of the person signing, and a list of the partners. Bids by corporations must be signed with the legal name of the corporation followed by the name of the state in which it is incorporated and by the signature and title of the person authorized to bind it in this matter. The name of each person signing shall be typed or printed below the signature. A signature on a bid by a person who identified their title as "President," "Secretary," "Agent," or other designation without disclosing the principal firm, shall be held to be the bid of the individual signing. When requested by the County, satisfactory evidence of the authority of the officer signing on behalf of the corporation shall be furnished. Trade or fictitious names may be referenced by using "t/a \_\_\_\_\_," but bids shall be in the legal name of the person or entity submitting the bid.
- (c) Bids with the bid guarantee shall be enclosed in a sealed envelope which shall be marked and addressed as indicated by the advertisement. If a contract is for one hundred twenty thousand dollars (\$120,000) or more, or if the total value of all construction, removal, repair or improvements undertaken by the bidder within any twelve-month period is seven hundred fifty thousand dollars (\$750,000) or more, the bidder is required under Title 54.1, Chapter 11, Code of Virginia (1950), as amended, to be licensed in Virginia as a "Class A Contractor." If a contract is for seven thousand five hundred dollars (\$7,500) or more, but less than one hundred twenty thousand dollars (\$120,000), the bidder is required to be licensed in Virginia as a "Class B Contractor." Unless otherwise specified in the Notice of Invitation to Bid, a Class B contractor may bid on project. The bidder shall place on the outside of the envelope containing the bid and shall place in the bid over his signature whichever of the following notations is appropriate and insert his Contractor license/registration number:

Licensed Class \_\_\_\_ (A or B) Virginia Contractor No. \_\_\_\_\_ If the bidder fails to provide this information on his bid or on the envelope containing the bid and fails to promptly provide said Contractor license number to the County in writing when requested to do so before or after the opening of bids, he shall be deemed to be in violation of Section 54.11112 of the Code of Virginia (1950), as amended, and his bid will not be considered.

- (d) The Board for Contractors has interpreted its regulations to mean "a licensed Contractor can bid on a contract which contains work outside their license classification(s) as long as he subcontracts those items for which he is not qualified to perform to licensed contractors with the appropriate License Classification and the work of the second party is incidental to the contract." Therefore, the County may, as a part of determining whether the Bidder is "responsible," require the apparent low Bidder to submit a listing of their subcontractors along with the license number and classification or specialty of each.
- (e) The bidder must also place its Employer Identification Number (SSN or EIN) in the space provided at the bottom of the Bid Form.

- (f) The bidder must submit at least three (3) natural stream channel design projects done over the past five (5) years to qualify. These entries should include project name, size in linear feet and watershed area of stream, and a short description of the project, and contact for recommendations.

## 5. BID GUARANTEE:

- (a) All construction bids (including the Total Base Bid plus all Additive Bid items) shall be accompanied by a Bid Bond or Certified Check payable to the County as obligee in an amount equal to five percent (5%) of the amount of the bid. A Bid Bond must be issued by a surety company which is legally authorized by the Virginia State Corporation Commission to do fidelity and surety business in the Commonwealth of Virginia. Such Bid Bond shall guarantee that the bidder will not withdraw his bid during the period of thirty (30) days following the opening of bids; that if his bid is accepted, he will enter into a formal contract with the County in accordance with the Contract included as a part of the IFB Documents; that he will submit a properly executed and authorized Standard Performance Bond and Standard Labor and Material Payment Bond acceptable in form and content to the County; and that in the event of the withdrawal of said bid within said period, or failure to enter into said contract and give said bonds within ten (10) days after he has received notice of acceptance of his bid, the bidder shall be liable to the County for the difference between the amount specified in said bid and such larger amount of which the County may contract with another party to perform the work covered by said bid, up to the amount of the bid guarantee. This amount represents the damage to the County on account of the default of the bidder in any particular hereof. See Virginia Code § 2.2-4336.
- (b) See Virginia Code § 2.2-4338 for provisions allowing alternative forms of bid security in lieu of a Bid Bond.
- (c) The Bid Bonds or other bid security will be returned to all except the three lowest bidders after the formal opening of bids. The remaining Bid Bonds or bid security will be returned to the Bidders after the County and the accepted Bidder have executed the Contract and the Performance Bond and the Payment Bond have been approved by the County.
- (d) If the required Contract and bonds have not been executed within thirty (30) days after the date of the opening of the bids, then the bond or other bid security of any Bidder will be returned upon his request, provided he has not been notified of the acceptance of his bid prior to the date of such request.

**6. MODIFICATION OF BIDS:** A bidder may withdraw or modify their bid provided that the designated officer or agency of the county has received written notice prior to the deadline fixed for bid receipt. The withdrawal or modification must be signed again by the authorized representative of the contractor making the modification or withdrawal. Written modification may be made by a revised sealed bid form, by a writing on the envelope, or by a separate document. The modification should state specifically what is to be modified and by what amount or state the item to be modified and what the correct amount should be. **Unless otherwise specified by the Bidder, the modification will be applied to the TOTAL BASE BID amount shown on the Bid Form.** In order to maintain the integrity of the sealed bidding process, modifications should be phrased as increases or decreases in the total bid (i.e. minus \$5000); they should not state a new total base bid. **The County will not accept bid withdrawals or modifications by facsimile or email.**

## 7. RECEIPT OF BIDS:

- (a) Bids will be received at or before the date and the hour and at the place stipulated in the Invitation for Bids as may be modified by subsequent Addenda.
- (b) It is the responsibility of the Bidder to assure that their bid and any bid modifications are delivered to the place designated for receipt of bids by the date and hour (deadline) set for receipt of bids. Therefore, it is the Bidder's responsibility to take into account all factors which may impact on its bid deliverer/courier's ability to deliver the bid and to implement whatever actions are necessary to have the bid delivered to the proper bid receipt location prior to the bid receipt deadline. The County does not accept proposals delivered via USPS, FEDEX or UPS on weekends, holidays or outside of our normal business hours of 8 a.m. to 5 p.m. Eastern Standard Time. No bids or bid modifications submitted or offered after the date and hour designated for receipt of bids will be accepted or considered. **Again, the County will not accept any bid, bid withdrawal, or bid modification by facsimile or email.**
- (c) The Bid Officer is the County's representative designated to receive bids at the time and place noted in the IFB and to open the bids received at the appointed time.
- (d) **The official time used for the receipt of responses is determined by reference to the clock designated by the Bid Officer.** The Bid Officer shall determine when the Bid Receipt Deadline has arrived and shall announce that the Deadline has arrived and that no further bids or bid modifications will be accepted. All bids and bid modifications in the possession of the Bid Officer and their assistants at the time the announcement is completed are deemed to be timely, whether or not the bid envelope has been physically date/time stamped or otherwise marked by the time the Bid Officer makes the deadline announcement.

## 8. OPENING OF BIDS:

- (a) Bids will be opened at the time and place stated in the Invitation for Bid or as modified by subsequent Addenda, and their contents publicly announced. The Bid Officer shall decide when the specified time for bid opening has arrived. No responsibility will be attached to any officer or agent for the premature opening of a bid not properly addressed and identified.
- (b) The provisions of § 2.2-4342 of the Code of Virginia (1950), as amended, shall be applicable to the inspections of bids received.

**9. ERRORS IN BIDS:** A Bidder may withdraw their bid from consideration if the price bid was substantially lower than the other bids due solely to a mistake therein, provided the bid was submitted in good faith, and the mistake was a clerical mistake as opposed to a judgment mistake, and was actually due to an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or material made directly in the compilation of a bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection or original work papers, documents and materials used in the preparation of the bid sought to be withdrawn.

County policy requires that bidders for public construction contracts be given an opportunity to withdraw their bids due to error. The withdrawal procedure outlined below will be utilized:

Withdrawal procedure: the Bidder shall give notice in writing of their claim of right to withdraw their bid within two (2) business days after the conclusion of the bid opening procedure and shall submit original work papers, documents, and materials used in the preparation of the bid with such notice. The contract shall not be awarded until the two (2) working day period has lapsed.

The delivery of a Bidder's original work papers, documents, and other materials used in preparation of the bid must be submitted either in person or by registered mail. The County will treat the

materials as trade secrets or proprietary information subject to the conditions of subsection F of Virginia Code § 2.2-4342.

No bid shall be withdrawn under this section when the result would be the awarding of the contract to another bid of the same Bidder or of another Bidder in which the ownership of the withdrawing bidder is more than five (5) percent.

No Bidder who is permitted to withdraw a bid shall, for compensation, supply any material or labor to or perform any subcontract or other work agreement for the person or firm to whom the contract is awarded or otherwise benefit, directly or indirectly, from the performance of the project for which the withdrawn bid was submitted.

If a bid is successfully withdrawn, the lowest remaining bid shall be deemed to be the lowest bid. However, the County may deny the withdrawal of a bid subsequent to Virginia Code § 2.2-4330. The County must notify the Bidder in writing of its decision stating its reasons and award the contract to such Bidder at the bid price, provided that such Bidder is responsible and responsive.

**10. REJECTION OF BIDS:** The County reserves the right to cancel the Invitation for Bid and to reject all bids at its sole discretion when such rejection is in the interest of the County, or to reject the bid of any Bidder who is determined to be not responsive or responsible. A statement justifying the decision to reject all bids will be placed in the procurement file.

**11. DETERMINATION OF RESPONSIBILITY:** Each bidder shall be prepared, if so requested by the County, to present evidence of his experience, qualifications and financial ability to carry out the terms of the Contract.

Prior to award of the Contract, an evaluation will be made to determine if the low Bidder has the capability, in all respects, to perform fully the contract requirements and the moral and business integrity and reliability which will assure good faith performance, and who has been pre-qualified, if required. Factors to be evaluated include, but are not limited to:

- (a) sufficient financial ability to perform the contract as evidenced by the bidder's ability to obtain payment and performance bonds from an acceptable surety;
- (b) appropriate experience to perform the Work described in the bid documents;
- (c) any judgments entered against the bidder, or any officers, directors, partners or owners for breach of a contract for construction;
- (d) any substantial noncompliance with the terms and conditions of prior construction contracts with a public body without good cause where the substantial noncompliance is documented;
- (e) a conviction of the bidder or any officer, director, partner, project manager, procurement manager, chief financial officer, or owner in the last five years of a crime relating to governmental or non-governmental construction or contracting; or
- (f) any current debarment of the contractor, any officer, director or owner, from bidding or contracting by any public body of any state, any state agency, or any agency of the federal government.

The County reserves the right to disqualify or refuse to accept the bid of any Bidder who has been convicted, or entered a plea of guilty or nolo contendere, in any federal or state court to any charge involving any unlawful, corrupt or collusive practice involving a public contract whether federal, state or

local, or who has been determined in any judicial proceeding to have violated any antitrust, bid-rigging or collusive practice statute in connection with any public contract, or against whom such formal criminal prosecution or other judicial proceeding has been instituted.

A Bidder who, despite being the apparent low Bidder, is determined not to be a responsible bidder shall be notified in writing in conformance with the procedures in section 2.2-4359 of the Code of Virginia (1950), as amended.

## 12. AWARD OF CONTRACT:

- (a) **Basis for Contract Award:** The Contract, if awarded, will be awarded to the lowest responsive and responsible Bidder, if any, provided his bid is reasonable and it is in the best interest of the County to accept it and subject to the County's right to reject any and all bids and to waive informality in the bids and in the bidding. The Bid Form may contain a multi-part Base Bid and may contain Additive Bid Items. Determination of the lowest responsive Bidder, if any, will be based on the Total Base Bid Amount **entered on the Bid Form** including any properly submitted bid modifications plus as many Additive Bid Items taken in sequence as the County in its discretion chooses to award. **Where the sum of the values entered in the multiple parts do not agree with the Total Base Bid amount, the Total Base Bid amount entered on the bid form, including any properly submitted bid modifications, shall take precedence. Also, where there is a discrepancy between the total base bid in its written format and the total base bid in its numeric format, the written format shall prevail.**
- (b) **Lowest Bidder:** The lowest bidder is normally the bid that guarantees the performance of the contract requirements for the least dollar amount within a reasonable amount of time. However, the County may take into account variations in the bids' times for completion by considering the possibility of either a positive or negative fiscal impact. In their discretion, the County may perform a cost-savings analysis taking into account potential profits from use, savings on other expenses, and any other financial benefits that may derive from an earlier completion date. If after such analysis a bid with a greater Total Base Bid and earlier completion date is determined to actually be the lowest bidder, that bidder will be awarded the contract.
- (c) **Informalities:** The County reserves the right to waive any informality in the bids when such waiver is in the interest of the County.
- (d) **Negotiation With Lowest Responsible Bidder:** If award of a contract to the lowest responsive and responsible Bidder is precluded because of limitations on available funds, under the provisions of Virginia Code § 2.2-4318 (the Public Procurement Act), the County reserves the right to negotiate the Total Base Bid amount with the lowest responsive, responsible Bidder to obtain a contract price within the available funds. This may involve changes in either the features or scope of the work included in the Base Bid. Such negotiations with the apparent low Bidder may include reducing the quantity, quality, or other cost saving mechanisms involving items in the Total Base Bid. Negotiations for Additive Bid Items are excluded. The County shall notify the lowest responsive and responsible Bidder that such a situation exists and the County and Bidder shall then conduct their negotiations in person, by mail, by telephone or by any means they find convenient. If an acceptable contract can be negotiated, the changes to the Invitation for Bid documents agreed upon in the negotiations shall be summarized in a "Post Bid Modification" and included in the contract. If an acceptable contract cannot be negotiated, the County shall terminate negotiations and reject all bids.
- (e) **Notice of Award:** The Notice of Award, the Notice of Intent to Award, or the Notice of Decision to Award will be posted at the County's standard location for posting notices. In addition the County may also post such notice on the County's website.



**13. ETHICS IN PUBLIC CONTRACTING:** The provisions, requirements and prohibitions as contained in § 2.2-4367 *et seq.* Code of Virginia (1950), as amended, pertaining to bidders, offerers, contractors, and subcontractors are applicable to this project.

**14. PRE-BID CONFERENCE:** See the Notice of Invitation for Bid for requirements for a pre-bid conference and whether such conference is mandatory or optional.

# Augusta County, Virginia

## Bid Form

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**Project Title:** Improvements to the Crimora Recreational Park

**IFB#** 81010-23-02

**Qualification of Bidders:**

Under Virginia law, all bidders must prove their eligibility to perform and / or satisfy the requirements of this contract before bidding. To this end, all bidders must be properly licensed or certified and have not been debarred.

License or Certificate Number: \_\_\_\_\_

**Note: This should also appear on the outside of your sealed bid.**

Bidders must also have the capability in all respects to fully satisfy all of the contractual requirements.

**Years in Business:**

Indicate the length of time your firm has been in business providing this type of construction:  
\_\_\_\_\_ years \_\_\_\_\_ months.

**References:**

Indicate below a listing of at least three (3) recent references for whom you have provided this type of construction. Include the date service was furnished and the name and address of the person bid officer has your permission to contact.

Date	Client	Telephone Number / Contact
_____	_____	( ) _____
_____	_____	_____
_____	_____	( ) _____
_____	_____	_____
_____	_____	( ) _____
_____	_____	_____
_____	_____	_____

**Bidder’s Proposal:**

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with the County in the form included in the Invitation For Bid to perform all work as specified or indicated for the prices and within the timed indicated in this Bid and in accordance with the terms and conditions of the Invitation for Bid.

Bidder accepts all of the terms and conditions of the Invitation for Bid including the Instructions for Bidders. Specifically, the Bidder accepts without limitation those terms and conditions dealing with the disposition of Bid Security. The Bid will remain subject to acceptance for 60 (sixty) days after the Bid opening, or for such longer period of time that the Bidder may agree to in writing upon request of the County.

**Bidder’s representations:**

In submitting this Bid, Bidder represents, as set forth in the Invitation for Bid, that:

- A. Bidder has examined and carefully studied all documents contained in the Invitation for Bid and the following addenda, receipt of which is hereby acknowledged.

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- B. Bidder has visited the site and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, and performance of the work.
- C. Bidder is familiar with and is satisfied as to all federal, state, and local laws and regulations that may affect cost, progress, and performance of the work.
- D. Bidder has carefully studied all applicable explorations and tests including, but not limited to, subsurface and / or hazardous environmental conditions.
- E. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the work at the price bid.
- F. Bidder is aware of the general nature of work to be performed by the County and others are the sire that relates to the work.
- G. Bidder has given the County written notice of all conflicts, errors, ambiguities, or discrepancies that the Bidder has discovered in the Invitation for Bid and subsequent addendum, and the written resolution thereof by the County is acceptable.
- H. The Invitation for Bid and subsequent addendum are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the work for which this Bid is submitted.

Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over the County.

Bidder will complete the Work in accordance with the Contract Documents for the following:

**TOTAL BASE BID:** (MUST BE IN NUMERIC AND WRITTEN FORMAT) \$ \_\_\_\_\_ (NUMERIC)

\_\_\_\_\_ dollars (WRITTEN)  
This blank is your definite bid. Failure to correctly complete this blank will not be considered an informality under any circumstances. The written entry will take precedence over the numeric entry.

**THIS WORK IS FIXED PRICE – COMPENSATION WILL NOT VARY FROM THE TOTAL BASE BID EXCEPT THROUGH CHANGE ORDER. CONTRACTOR IS TO ESTIMATE OWN QUANTITIES, LISTED UNIT PRICES WILL BE USED ONLY FOR ADDITIONS AND/OR DEDUCTIONS FROM THE WORK NOT SHOWN ON THE PLAN**

**EARLIEST POSSIBLE START DATE:** \_\_\_\_\_

Firm Name and Address:

\_\_\_\_\_ Telephone ( ) \_\_\_\_\_

\_\_\_\_\_ Email \_\_\_\_\_

\_\_\_\_\_

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

Type/Print: \_\_\_\_\_

Title: \_\_\_\_\_ EIN#: \_\_\_\_\_

# Augusta County, Virginia

## Pre-Bid Question Form

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Project Title: Improvements to the Crimora Recreational Park

IFB #: 81010-23-02

The undersigned potential Bidder would like to request a written clarification, interpretation, or explanation to the following question or question(s):

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Please note that all questions should be directed to the Bid Officer designated on the Notice of Invitation to Bid and should be received at least six (6) business days prior to the time set for the receipt of bids to allow for sufficient time for an addendum to reach all Bidders. If there are two (2) weeks or less between the issuance of the Invitation to Bid and the time set for receipt of bids, then Bidders may continue to submit questions up until three (3) business days prior to the time set for receipt of bids.

The County will endeavor to respond to all inquiries in the most timely manner possible. However, if in their discretion they determine the inquiry to be inappropriate for any reason, the County may refuse to respond. Multiple inquiries of substantially the same question may be answered in one addendum.

Firm Name and Address:

_____	Telephone (____) _____
_____	Fax (____) _____
_____	Email _____

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

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

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

# SPECIAL PROVISIONS

## 1. NONCOMPLIANCE WITH CONTRACT REQUIREMENTS

(a) The County may order suspension of the work in whole or in part for such time as he deems necessary because of the failure of the Contractor to comply with any of the requirements of this contract, and the contract completion date shall not be extended on account of any such suspension of the work.

(b) When the County orders any suspension of the work under (a) of this clause, the Contractor shall not be entitled to any costs or damages resulting from such suspension.

(c) The rights and remedies of the County provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

## 2. QUANTITY VARIATIONS – FOR UNIT PRICE ITEMS ONLY

(a) Where the quantity of work shown for an item in the bid schedule, including any modification thereof, is estimated, no adjustment of the contract price nor or the performance time shall be made for overruns or underruns which are within 25 percent of the estimated quantity of any such item.

(b) For overruns of more than 25 percent, the County shall re-estimate the quantity for the item, establish an equitable contract price for the overrun of more than 25 percent, adjust contract performance time equitably and modify the contract in writing accordingly; this clause to thereafter be applicable to the total re-estimated item quantity.

(c) For underruns of more than 25 percent, the County shall determine the quantity for the item, establish an equitable contract price therefor, adjust contract performance time equitably, and modify the contract in writing accordingly.

## 3. Accident Prevention and Safety Measures

The contractor shall comply with the OSHA Part 1926, Construction Standards and Interpretations, in effect on the date of issuance of the invitation for bids, and with the NRCS supplement to OSHA PART 1926.

## 4. Performance of Work by Contractor

The contractor shall perform on the site, and with their own organization, work equivalent to at least twenty percent (20%) of the total amount of work to be performed under the contract. If, during the progress of the work hereunder, the contractor requests a reduction in such percentage, and the county determines that it would be to the advantage of the contracting local organization, the percentage of the work required to be performed by the contractor may be reduced with the written approval of the county.

## 5. Clean Air and Water Clause (Applicable only if the contract exceeds \$100,000, or the county has determined that orders under an indefinite quantity contract in any one year will exceed \$100,000, or a facility to be used has been the subject of a conviction under the

Clean Air Act (42 U.S.C. 1857c-8(c)(1) or the Federal Water Pollution Control Act (33 U.S.C. 1319(c)) and is listed by the Environmental Protection Agency (EPA) or the contract is not otherwise exempt.

A. The contractor agrees as follows:

- (1) To comply with all the requirements of Section 114 of the Clean Air Act (42 U.S.C. 1857, et seq, as amended by Public Law 91-604) and Section 308 of the Federal Water Pollution Control Act (33 U.S.C. 1251, as amended by Public Law 92-500), respectively, relating to inspection, monitoring, entry, reports, and information, as well as other requirements specified in Section 114 and Section 308 of the Air Act and the Water Act, respectively, and all regulations and guidelines issued thereunder before the award of this contract.
- (2) That no portion of the work required by this contract will be performed in a facility listed on the Environmental Protection Agency List of Violating Facilities on the date when this contract was awarded unless and until the EPA eliminates the name of such facility or facilities from such listing.
- (3) To use his best efforts to comply with clean air and clean water standards at the facilities in which the contract is being performed.
- (4) To insert the substance of the provisions of this clause in any nonexempt subcontract, including this subparagraph.

B. The terms used in this clause have the following meanings:

- (1) The term "Air Act" means the Clean Air Act, (42 U.S.C. 1857 et seq, as amended by Public Law 91-604).
- (2) The term "Water Act" means Federal Water Pollution Control Act (33 U.S.C. 1251 et seq, as amended by Public Law 92-500).
- (3) The term "clean air standards" means any enforceable rules, regulations, guidelines, limitations, orders, controls, prohibitions, or other requirements which are contained in, issued under or otherwise adopted pursuant to the Air Act or Executive Order 11738, an applicable implementation plan as described in Section 110(d) of the Clean Air Act (42 U.S.C. 1857c-5(d)), an approved implementation procedure or plan under Section 111(c) or Section 111(d), respectively, of the Air Act, or an approved implementation procedure under Section 112(d) of the Air Act (42 U.S.C. 1857c-7(d)).
- (4) The term "Clean Water Standards" means any enforceable limitation, control, condition, prohibition, standard, or other requirement which is promulgated pursuant to the Water Act or contained in a permit issued to a discharger by the EPA or by a state under an approved program, as authorized by Section 402 of the Water Act (33 U.S.C. 1342), or by a local government to ensure compliance with pretreatment regulations as required by Section 307 of the Water Act (33 U.S.C. 1317).

- (5) The term "compliance" means compliance with clean air or water standards. Compliance shall also mean compliance with a schedule or plan ordered or approved by a court of competent jurisdiction, the EPA or an air or water pollution control agency in accordance with the Air Act or Water Act and regulations issued pursuant thereto.
- (6) The term "facility" means any building, plant, installation, structure, mine, vessel or other floating craft, location or site of operations, owned, leased or supervised by a contractor, or subcontractor, to be utilized in the performance of contract or subcontract. Where a location or site of operations contains or includes more than one building, plant, installation or structure, the entire location shall be deemed to be a facility except where the Director, Office of Federal Activities, Environmental Protection Agency, determines that independent facilities are collocated in one geographical area.
6. Workweek: The maximum workweek allowed is 10 hours a day, Monday through Friday. All Sundays, New Year's Day, Martin Luther King Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the day after Thanksgiving, Christmas Eve, and Christmas Day, are nonworkdays. No work, except that of an emergency nature, will be allowed.
7. Equal Employment Opportunity Reporting Requirements: Equal Employment Opportunity Reporting Requirements for contracts over \$10,000:
- (a) EEO-1 Reporting Requirements
- (1) Each construction prime contractor and first tier subcontractor who has 50 or more employees on total corporate or company payroll and signs a direct federal or financially assisted contract or subcontract amounting to \$50,000 or more, shall file reports on Standard Form 100 (EEO-1) to the Joint Reporting Committee.
- (2) Each contractor or subcontractor required in paragraph 1 above shall submit an EEO-1 to the U.S. Department of Labor, Employment Standards Administration, Office of Federal Contract Compliance Programs, 230 South Dearborn St., Ste. 570, Chicago, Illinois 60604, WITHIN 30 DAYS after award of such contract or subcontract as mentioned in paragraph 1 above, UNLESS such contractor or subcontractor has already submitted an EEO-1 report to the Joint Reporting Committee within 12 months preceding the date of award of an NRCS federal or federally-assisted contract.
- (b) Contractors and subcontractors may obtain EEO-1 reporting forms by writing to:
- U.S. Department of Labor  
Employment Standards Administration  
Office of Federal Contract Compliance Program  
230 Dearborn St., Ste. 570  
Chicago, Illinois 60604



**AUGUSTA COUNTY, VIRGINIA  
CONSTRUCTION CONTRACT  
GENERAL CONDITIONS**

1. DEFINITIONS

Whenever used in these General Conditions of the Construction Contract ("General Conditions") or in the Contract Documents, the following terms have the meanings indicated, which are applicable to both the singular and plural and the male and female gender thereof:

Beneficial Occupancy: The condition after Substantial Completion but prior to Final Completion of the Project at which time the Project, or portion thereof, is sufficiently complete and systems operational such that the County could, after obtaining necessary approvals and certificates, occupy and utilize the space for its intended use. Guarantees and warranties applicable to that portion of the Work begin on the date the County accepts the Project, or a portion thereof, for such Beneficial Occupancy, unless otherwise specified in the Supplemental Conditions or by separate agreement.

Change Order: A document issued on or after the effective date of the Contract between County and Contractor which is agreed to by the Contractor and approved by the County, and which authorizes an addition, deletion or revision in the Work, including any adjustment in the Contract Price and/or the Contract Completion Date. A Change Order, once signed by all parties, is incorporated into and becomes a part of the Contract.

Construction: The term used to include new construction, reconstruction, renovation, restoration, major repair, demolition and all similar work upon buildings and ancillary facilities, including any draining, dredging, excavation, grading or similar work upon real property.

Contract: This document signed by the County and Contractor, including all bid documents and other Contract Documents, hereinafter referred to as the Contract.

Contract Completion Date: The calendar date by which the Work must be substantially complete. The Contract Completion Date is customarily established in the Notice To Proceed, based on the Time for Completion. In some instances, however, the Contract contains a mandatory Contract Completion Date, which shall be stated in the Invitation for Bid. The Contract Completion Date may only be modified by a duly approved Change Order.

Contract Documents: The Contract between County and Contractor signed by the County and the Contractor and any documents expressly incorporated therein. Such incorporated documents customarily include the Invitation for Bid, the Bid submitted by the Contractor, these General Conditions, any Supplemental Conditions, the plans and specifications, all modifications to the foregoing, including addenda and subsequent Change Orders, and all documents incorporated by reference in the foregoing.

Contract Price: The total compensation payable to the Contractor for performing the Work, subject to modification by Change Order.

Contractor: The person with whom the County has entered into a contractual agreement to do the Work.

County: Augusta County, or the agency or department thereof which is a party to the Contract. For purposes of the Contract, the term County shall include the County, whether or not the County owns the site or the building.

County's or Owner's Representative: The Owner's Representative as used herein shall be the County's designated representative on the Project. The Owner's Representative shall be the person through whom the County generally conveys written decisions and notices. In the event of the incapacity or other unavailability of the designated Owner's Representative, the County Administrator shall be the Owner's Representative until a substitute is named.

Day(s): Calendar day(s) unless otherwise noted.

Defective: An adjective which, when modifying the word Work, refers to Work that is unsatisfactory, faulty, deficient, does not conform to the Contract Documents or does not meet the requirements of inspections, standards, tests or approvals required by the Contract Documents, or Work that has been damaged prior to final payment (unless responsibility for the protection thereof has been expressly assumed by County at Substantial Completion or Beneficial Occupancy).

Drawing: A page or sheet of the Plans which presents a graphic representation, usually drawn to scale, showing the technical information, design, location, and dimensions of various elements of the Work. The graphic representations include, but are not limited to, plan views, elevations, transverse and longitudinal sections, large and small scale sections and details, isometrics, diagrams, schedules, tables and/or pictures.

Emergency: Any unforeseen situation, combination of circumstances, or a resulting state that would result in one or more of the following: (a) danger to life or property, (b) interruption or termination of essential services, (c) substantial financial loss to the procuring agency, or (d) inability to meet a mandatory deadline.

Field Order: A written order issued by the County's Representative which clarifies or explains the plans or specifications, or any portion or detail thereof, without changing the design, the Contract Price, the Time for Completion or the Contract Completion Date.

Final Completion Date: The date of the County's acceptance of the Work from the Contractor upon confirmation from the County's Representative and the Contractor that the Work is totally complete.

Notice: All written notices, including demands, instructions, claims, approvals and disapprovals, required or authorized under the Contract Documents. Any written notice by either party to the Contract shall be sufficiently given by any one or combination of the following, whichever shall first occur: (1) delivered by hand to the last known business address of the person to whom the notice is due; (2) delivered by hand to the person's authorized agent, representative or officer wherever they may be found; or (3) enclosed in a postage prepaid envelope addressed to such last known business address and delivered to a United States Postal Service official or mailbox. Notice is effective upon such delivery. All notices to the County should be directed to the County's Representative.

If the County and the Contractor agree in writing that Notices transmitted by Facsimile (Fax) or Email are acceptable for the Project, such Notice shall be transmitted to the Fax number or Email address listed in the agreement and, in the case of Fax, shall have a designated space for the Fax

Notice recipient to acknowledge his receipt by authorized signature and date. The Fax Notice with authorized signature acknowledging receipt shall be Faxed back to the sender. The Faxed Notice shall be effective on the date it is acknowledged by authorized signature. Emailed notices shall be acknowledged by Reply Email upon receipt. All Faxed and Emailed Notices shall also be sent by hard copy, which shall be effective upon delivery, as provided herein. Notice shall be effective upon the date of acknowledgment of the Faxed or the Emailed Notice or the date of delivery, whichever occurs first.

Notice to Proceed: A written notice given by the County to the Contractor fixing the date on which the Contract time will commence for the Contractor to begin the prosecution of the Work in accordance with the requirements of the Contract Documents. The Notice to Proceed will customarily identify a Contract Completion Date.

Owner: Augusta County, Virginia.

Person: This term includes any individual, corporation, partnership, association, company, business, trust, joint venture, or other legal entity.

Plans: The term used to describe the group or set of project-specific drawings which are included in the Contract Documents.

Project: The term used instead of the specific or proper assigned title of the entire undertaking which includes, but is not limited to, the "Work" described by the Contract Documents.

Project Inspector: One or more persons utilized by the County to inspect the Work for the County and/or to document and maintain records of activities at the Site to the extent required by the County. The County shall notify the Contractor in writing of the appointment of such Project Inspector(s).

Provide: Shall mean furnish and install ready for its intended use.

Site: Shall mean the location at which the Work is performed or is to be performed.

Specifications: That part of the Contract Documents containing the written administrative requirements and the technical descriptions of materials, equipment, construction systems, standards, and workmanship which describe the proposed Work in sufficient detail and provide sufficient information for the Building Official to determine code compliance and for the Contractor to perform the Work.

Subcontractor: A person having a direct contract with Contractor or with any other Subcontractor for the performance of the Work.

Submittals: All shop, fabrication, setting and installation drawings, diagrams, illustrations, schedules, samples, and other data which are specifically prepared by or for the Contractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by the Contractor to illustrate material, equipment or conformance of some portion of the Work with the requirements of the Contract Documents.

Substantial Completion: The condition when the County agrees that the Work, or a specific portion thereof, is sufficiently complete, in accordance with the Contract Documents, so that it

can be utilized by the County for the purposes for which it was intended. The County at its sole discretion may, after obtaining the necessary approvals and certificates, take Beneficial Occupancy at this time or choose to wait to occupy until after Final Completion is achieved.

Supplier: A manufacturer, fabricator, distributor, materialman or other vendor who provides material for the Project but does not provide on-site labor.

Time for Completion: The number of consecutive days following the issuance of the Notice to Proceed which the Contractor has to substantially complete all Work required by the Contract. When the Notice to Proceed is issued, it states a Contract Completion Date, which has been set by the County based on the Time for Completion. The Time for Completion may only be modified by a duly approved Change Order.

Underground Facilities: Any item of public or private property which is buried or placed below ground or submerged for use in connection with the storage or conveyance of water, sewage, electronic telecommunications, electric energy, cable television, oil, petroleum products, gas, or other substances, and includes but is not limited to pipes, sewers, combination storm/sanitary sewer systems, conduits, wells, cables, valves, lines, wires, manholes, attachments, and those portions of poles below ground.

Work: The services performed under this Contract including, but not limited to, furnishing labor, and furnishing and incorporating materials and equipment into the construction. The Work also includes the entire completed construction, or the various separately identifiable parts thereof, required to be furnished under the Contract Documents.

## **2. CONTRACT DOCUMENTS**

(a) Original copies. The Contract between County and Contractor shall be signed by the County and the Contractor in as many original counterparts as may be mutually agreed upon, each of which shall be considered an original.

(b) Time of the essence. All time limits stated in the Contract Documents, including but not limited to the Time for Completion of the Work, are of the essence of the Contract.

(c) Severability clause. If any provision of this Contract shall be held invalid by any court of competent jurisdiction, such holding shall not invalidate any other provision.

(d) Conflicting clauses. In the event there is a conflict between the provisions of the General Conditions and Supplemental Conditions, the provisions of the Supplemental Conditions shall apply. A specific provision in any other Contract Document shall take precedence over a provision of the General Conditions unless such precedence would result in a violation of law.

## **3. LAWS AND REGULATIONS**

(a) The Contractor shall comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work and shall give all notices required thereby.

(b) The Contractor shall assure that all Subcontractors and tradesmen who perform Work on the project are properly licensed by the Department of Professional and Occupational Regulation as required by the Code of Virginia and applicable regulations.

(c) If the Contractor violates laws or regulations that govern the Project, the Contractor shall indemnify and hold the County harmless against any fines and/or penalties that result from such violation. To the extent that such violation is the result of negligence or other actionable conduct of the Contractor, the Contractor shall indemnify and hold the County harmless against any third party claims, suits, awards, actions, causes of action or judgments, including but not limited to attorney's fees and costs incurred thereunder, that result from such violation.

#### **4. NONDISCRIMINATION**

(a) During the performance of this Contract, the Contractor agrees as follows:

i. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

ii. The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an equal opportunity employer.

iii. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

iv. The Contractor will include the provisions of the foregoing paragraphs in every subcontract or purchase order of over ten thousand dollars (\$10,000), so that the provisions will be binding upon each Subcontractor or vendor.

(b) Where applicable, laws protecting the rights of the disabled, including the Virginians with Disabilities Act and the federal Americans with Disabilities Act, shall apply to the Contractor and all Subcontractors.

(c) It is the policy of the County of Augusta that the County and its employees undertake every effort to increase the opportunity for utilization of minority-owned and woman-owned businesses in all aspects of procurement to the maximum extent feasible. Accordingly, the Contractor agrees:

i. In connection with the performance of this contract, the Contractor agrees to use his or her best effort to carry out this policy and to insure that minority-owned and woman-owned businesses shall have the maximum practicable opportunity to compete for subcontract work under this contract consistent with the efficient performance of this contract.

ii. As used in this contract the term "minority-owned business" means a business or other entity that is at least fifty-one (51) percent owned and controlled by one or more socially and economically disadvantaged person(s). For purposes of this definition, the term "control" shall mean exercising the power to make policy decisions and being actively involved in day-to-day management. Such disadvantage may arise from cultural, racial, chronic economic circumstance or background or other similar cause. Such persons include, but are not limited to, Black Americans, Hispanic Americans, Asian Americans, Eskimos, and Aleuts.

iii. As used in this contract the term “woman-owned business” means a business or other entity that is at least fifty-one (51) percent owned and controlled by one or more women. For purposes of this definition, the term “control” shall mean exercising the power to make policy decisions and being actively involved in day-to-day management.

iv. Prior to final payment, the Contractor must provide documentation regarding the actual good faith minority-owned business participation efforts undertaken in connection with the contract. In connection with the performance of this contract, “good faith efforts” shall mean those measures which were utilized to allow equitable participation of minority employees and subcontractors.

v. Contractors may rely on oral or written representations by subcontractors regarding their status as minority-owned or woman-owned business enterprises in lieu of independent investigation.

vi. Where Federal grants or monies are involved it is the policy of Augusta County, through its agents and employees, to comply with the requirements set forth in the U.S. Office of Management and Budget Circular No. A-102, uniform administrative requirements for Grants and Cooperative Agreements with State and Local Governments, as they pertain to small and minority business utilization.

## **5. PROHIBITION OF ALCOHOL AND OTHER DRUGS**

(a) During the performance of this contract, the contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor. For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a contractor in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

(b) The Contractor shall also establish, maintain and enforce policies which prohibit the following acts by all Contractor, Subcontractor and Supplier personnel at the Site: (1) the manufacture, distribution, dispensation, possession, or use of alcohol, marijuana or other drugs, except possession and medically prescribed use of prescription drugs; and (2) the impairment of judgment or physical abilities due to the use of alcohol, marijuana or other drugs, including impairment from prescription drugs.

## **6. CONTRACT COMPLETION DATE AND TIME FOR COMPLETION.**

(a) The Contract Completion Date will be designated by the County in the Notice to Proceed.

(b) The Work must be substantially completed by the Contract Completion Date. Unless otherwise specified, the Contractor shall achieve Final Completion within thirty (30) days after the date of Substantial Completion.

(c) The Contractor, in submitting his Time for Completion, acknowledges that he has taken into consideration normal weather conditions. In addition, the Contractor recognizes that only adverse abnormal weather conditions will be considered as a basis for Change Orders. Normal weather does not mean statistically average weather, but rather means a range of weather patterns which might be anticipated based on weather data from the past ten (10) years. Abnormal weather conditions means only those extremely unusual weather patterns that radically deviate from the public historical records available and that reasonably impair the progress of work. No additional compensation will be paid to the Contractor because of abnormal weather conditions; however, a Change Order modifying the Contract Completion Date based upon abnormal weather will be considered by the County in extraordinary circumstances. In order to request an extension of time due to weather, the Contractor must petition the County within seven (7) days of the completion of the calendar month during which the abnormal weather is claimed to have occurred.

(d) The Contractor represents and agrees that he has taken into account in his bid the requirements of the bid documents, local conditions, availability of materials, equipment, and labor, and any other factors which may affect the performance of the Work. The Contractor agrees and warrants that he will achieve Substantial Completion of the Work to allow the County to have Beneficial Occupancy not later than the Time for Completion or Contract Completion Date. The Contractor agrees and warrants that he will achieve Final Completion of the Work (the entire completion of all Work, including "punch list" items), not later than thirty (30) days after achieving Substantial Completion, unless otherwise agreed by the County.

(e) Early Completion of Project: Extensions of time, damages for delay, and all other matters between the County and the Contractor will be determined using the contractually required Substantial Completion date. However, the Contractor may attempt to achieve Substantial Completion on or before the Contract Completion Date. Such planned early completion shall be for the Contractor's convenience only and shall not create any additional rights of the Contractor or obligations of the County under this Contract, nor shall it change the Time for Completion or the Contract Completion Date. The Contractor shall not be required to pay damages to the County because of its failure to achieve Substantial Completion by its planned earlier date. Likewise, the County shall not pay the Contractor any additional compensation for achieving Substantial Completion early nor will the County owe the Contractor any compensation should the County, its officers, employees, or agents cause the Contractor not to achieve Substantial Completion earlier than the date required by the Contract Documents.

(f) Late Completion of Project: In the event the Contractor wishes to modify the Contract Completion Date, he must comply with Section 41: Damages for Delay; Extensions of Time.

## **7. CONDITIONS AT SITE**

(a) The Contractor bears the risk of unforeseen difficulties with site conditions during the performance of the contract. The Contractor shall have visited the Site prior to bidding and is totally responsible for having ascertained pertinent local conditions such as location, accessibility and general character of the Site, and the character and extent of existing improvements and work within or adjacent to the Site. Claims, which result from the Contractor's failure to do so, will be deemed waived.

(b) If, in the performance of the Contract, subsurface or latent conditions at the Site are found which are materially different from those frequently present in the County or from those indicated in the Contract Documents, the Contractor must report such conditions to the County before the conditions are disturbed. Upon such notice, or upon his own observation of such conditions, the County's Representative shall promptly propose such changes in the Contract Documents as he finds necessary to conform to the different conditions.

(c) If the Contractor, during the course of the Work, observes the existence of any material which he knows, should know, or has reason to believe is hazardous to human health, the Contractor shall promptly notify the County. The County will provide the Contractor with instructions regarding the disposition of the material. The Contractor shall not perform any Work involving the material or any Work causing the material to be less accessible prior to receipt of special instructions from the County.

## **8. CONTRACT SECURITY**

(a) The Contractor shall deliver to the County or its designated representative, a Standard Performance Bond and a Standard Labor and Material Payment Bond, each fully executed by the Contractor and one or more surety companies legally licensed to do business in Virginia and each in an amount equal to one hundred percent (100%) of the accepted bid. If more than one surety executes a bond, each shall be jointly and severally liable to the County for the entire amount of the bond. Sureties shall be selected by the Contractor, subject to approval by the County. No payment on the Contract shall be due and payable to the Contractor until the bonds have been approved by the County and its attorney.

(b) Alternative forms of security for payment and/or performance may be accepted in the discretion of the County.

## **9. SUBCONTRACTS**

(a) The Contractor shall, as soon as practicable after the signing of the Contract, notify the County in writing of the names of all Subcontractors proposed for the principal parts of the Work and of such other parts as the County's Representative may direct. Where the specifications establish qualifications or criteria for Subcontractors, manufacturers, or individuals performing Work on the Project, the Contractor shall be responsible for ascertaining that those proposed meet the criteria or qualifications. The Contractor shall not employ any Subcontractor that the County may, within a reasonable time, object to as unsuitable. The County shall not direct the Contractor to contract with any particular Subcontractor unless provided in the Supplemental Conditions.

(b) The County shall, on request, furnish to any Subcontractor, if practicable, the amounts of payments made to the Contractor and Requests for Payment submitted by the Contractor and any other documentation submitted by the Contractor which would tend to show what amounts are due and payable by the Contractor to the Subcontractor.

(c) The Contractor shall be fully responsible to the County for all acts and omissions of his agents and employees and all succeeding tiers of Subcontractors and Suppliers performing or furnishing any of the Work. Nothing in the Contract Documents shall create any contractual relationship between the County and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of the County to pay for or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization, except as may otherwise be required by law.



(d) The Contractor shall be fully responsible for his invitees at the Site and for those of his Subcontractors, Suppliers, and their employees, including any acts or omissions of such invitees.

(e) The Contractor agrees that he alone is responsible for all dealings with his Subcontractors and Suppliers, and their subcontractors, employees and invitees, including, but not limited to, the Subcontractors' or Suppliers' claims, demands, actions, disputes and similar matters unless specifically provided otherwise by the Contract or by statute.

## **10. SEPARATE CONTRACTS.**

The County reserves the right to let other contracts in connection with the Project, the Work under which may proceed simultaneously with the execution of this Contract. The Contractor shall afford other separate contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work. The Contractor shall cooperate with them and shall take all reasonable action to coordinate his Work with theirs.

If the County has listed other separate contracts in the Invitation for Bids which it expects to proceed simultaneously with the Work of the Contractor, and has included the estimated timing of such other Contracts in the Invitation for Bids, the Contractor shall integrate the schedule of those separate contracts into his scheduling. The Contractor shall make every reasonable effort to assist the County in maintaining the schedule for all separate contracts. If the work performed by the separate contractor is defective or performed so as to prevent or threaten to prevent the Contractor from carrying out his Work according to the Contract, the Contractor shall immediately notify the County and the Architect/Engineer, if any, upon discovering such conditions.

If a dispute arises between the Contractor and any separate contractor(s) as to their responsibility for cleaning up as required by the "Use of Site and Removal of Debris" provisions of these General Conditions, the County may clean up and charge the cost thereof to the respective contractors in proportion to their responsibility. If a Contractor disputes the County's apportionment of clean-up costs, it shall be that contractor's burden to demonstrate and prove the correct apportionment.

## **11. INDEMNIFICATION**

Except as provided in § 11-4.1 of the Code of Virginia, the Contractor agrees to indemnify, defend and hold harmless the County, its officers, agents, and employees from any claims, damages and actions of any kind or nature, whether at law or in equity, arising from or caused by the use of any materials, goods, or equipment of any kind or nature furnished by the Contractor, or arising from or caused by any services of any kind or nature provided by the Contractor, provided that such liability is not attributable to the sole negligence of the County or to failure of the County to use the materials, goods, or equipment in the manner already and permanently described by the Contractor on the materials, goods or equipment delivered.

## **12. CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE**

(a) The Contractor shall not commence Work under this Contract until he has obtained all the insurance required hereunder from an insurer authorized to do business in Virginia and such insurance has been approved by the County; nor shall the Contractor allow any Subcontractor to commence Work on his subcontract until the same types of insurance in an appropriate amount

have been obtained by the Subcontractor and approved by the Contractor. Approval of insurance by the County shall not relieve or decrease the liability of the Contractor hereunder.

(b) The Contractor shall take out and shall maintain at all times during the performance of the Work Workers' Compensation and Employers' Liability Insurance for all of his employees engaged in the Work in an amount not less than the minimum required by §11-46.3 and §65.2-100 et seq. of the Code of Virginia, and, in case any of the Work is sublet, the Contractor shall require each Subcontractor similarly to provide Workers' Compensation and Employers' Liability Insurance for all of the latter's employees to be engaged in the Work. The Contractor shall submit on the form provided by the County a Certificate of Coverage verifying Workers' Compensation coverage prior to award of the Contract. The Contractor shall likewise obtain a Certificate of Coverage for Workers' Compensation coverage from each subcontractor prior to awarding the subcontract and shall provide a copy to the County.

(c) During the performance of the Work under this Contract, the Contractor shall maintain commercial general liability insurance to include Premises / Operations Liability, Products and Completed Operations Coverage, Independent Contractor's Liability, County's and Contractor's Protective Liability, and Personal Injury Liability, which shall insure him against claims of personal injury, including death, as well as against claims for property damage, which may arise from operations under this Contract, whether such operations be by himself or by any Subcontractor, or by anyone directly or indirectly employed by either of them. The amounts of general liability insurance shall be not less than \$1,000,000 per occurrence and \$2,000,000 aggregate combined limit. The County of Augusta, its officers, employees and agents, shall be named as an additional insured with respect to the Work being procured. The Supplemental Conditions may require the Contractor to provide an Umbrella insurance policy in a specified amount for the Project.

(d) During the performance of the Work under this Contract, the Contractor shall maintain automobile liability insurance which shall insure him against claims of personal injury, including death, as well as against claims for property damage, which may arise from operations under this Contract, whether such operations be by himself or by any Subcontractor, or by anyone directly or indirectly employed by either of them. The amounts of automobile insurance shall be not less than \$1,000,000 combined limit for bodily injury and property damage per occurrence.

(e) Written evidence of all required insurance shall be delivered to the County's Representative prior to the Notice to Proceed and, in any event, no later than thirty (30) days following the award of the contract. The Contractor shall ensure that in the event of cancellation of any insurance, not less than thirty (30) days prior written notice will be sent by the Insurer to the County. A copy of any insurance policy shall be given to the County upon demand. Cancellation of any required insurance policy is a material breach of this contract.

### **13. TAXES, FEES AND ASSESSMENTS**

The Contractor shall, without additional expense to the County, pay all applicable federal, state, and local taxes, fees, and assessments except the taxes, fees and assessments on the real property comprising the Site of the project

### **14. PATENTS**

The Contractor shall obtain all licenses necessary to use any invention, article, appliance, process or technique of whatever kind and shall pay all royalties and license fees. The Contractor shall

hold the County, its officers, agents and employees, harmless against any loss or liability for or on account of the infringement of any patent rights in connection with any invention, process, technique, article or appliance manufactured or used in the performance of the Contract, including its use by the County, unless such invention, process, technique, article or appliance is specifically named in the specifications or plans as acceptable for use in carrying out the Work. If, before using any invention, process, technique, article or appliance specifically named in the specifications or plans as acceptable for use in carrying out the Work, the Contractor has or acquires information that the same is covered by letters of patent making it necessary to secure the permission of the patentee, or other, for the use of the same, he shall promptly advise the County. The County may direct that some other invention, process, technique, article or appliance be used. Should the Contractor have reason to believe that the invention, process, technique, article or appliance so specified is an infringement of a patent, and fail to inform the County, he shall be responsible for any loss or liability due to the infringement.

*“[Section 15 Omitted.]”*

## **16. INSPECTION**

The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the Work called for by this contract conforms to the Contract requirements. The Contractor shall maintain complete inspection records and make them available to the County and the County’s Representative. All work is subject to inspection and testing at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the Contract.

## **17. SUPERINTENDENCE BY CONTRACTOR**

(a) The Contractor shall have a competent foreman or superintendent, satisfactory to the County, on the Site at all times during the progress of the Work. The superintendent or foreman shall be familiar with and be able to read and understand the plans and specifications, and be capable of communicating orally and in writing with the County's inspectors and the Contractor's workers. The Contractor shall be responsible for all construction means, methods, techniques, sequences and procedures, for coordinating all portions of the Work under the Contract except where otherwise specified in the Contract Documents, and for all safety and worker health programs and practices. The Contractor shall notify the County, in writing, of any proposed change in superintendent, including the reason therefor, prior to making such change.

(b) The Contractor shall, at all times, enforce strict discipline and good order among the workers on the Project, and shall not employ on the Work, or contract with, any unfit person, anyone not skilled in the Work assigned to him, or anyone who will not work in harmony with those employed by the Contractor, the Subcontractors, the County or the County's separate contractors and their subcontractors.

(c) The County may, in writing, require the Contractor to remove from the Site any employee or Subcontractor's employee the County deems to be incompetent, careless, not working in harmony with others on the Site, or otherwise objectionable, but the County shall have no obligation to do so.

## **18. CONSTRUCTION SUPERVISION, METHODS AND PROCEDURES**

(a) The Contractor shall be solely responsible for supervising and directing the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be

necessary to perform the Work in accordance with the Contract. The Contractor shall be solely responsible for the means, methods, techniques, sequences and procedures of construction and for coordinating all portions of the Work under the Contract, except where otherwise specified in the Contract Documents. However, the Contractor shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract. The Contractor is solely responsible to the County that the finished Work complies with the Contract Documents.

(b) The Contractor shall be solely responsible for health and safety precautions and programs for workers and others in connection with the Work. No inspection by, knowledge on the part of, or acquiescence by the Project Inspector, the County's Representative or other County employees and agents, or any other entity whatever shall relieve the Contractor from its sole responsibility for compliance with the requirements of the Contract or its sole responsibility for health and safety programs and precautions.

(c) If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, the Contractor may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to the County. The Contractor must submit in a timely manner its written request for the substitution to the County's Representative. Such request must include sufficient information to allow the County to determine that the substitute proposed is equivalent to that indicated or required by the Contract and be received by such a date to ensure the County has adequate time to review the request and respond without creating a need for an extension of the Contract Completion Date.

(d) The divisions and sections of the Specifications and the identification of any drawings shall not control the Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

## **19. SCHEDULE OF THE WORK**

General: The Contractor is responsible for the scheduling and sequencing of the Work, for coordinating the Work, for monitoring the progress of the Work, and for taking appropriate action to keep the Work on schedule.

## **20. SCHEDULE OF PAYMENTS TO CONTRACTOR**

(a) Contract price. The County shall pay the Contractor as just compensation for the performance of this contract, subject to any additions or deductions as may have been authorized by approved written change orders, the unit or lump sum price as contained in the bid documents.

(b) Acceptance and payment. Upon receipt of written notice from the Contractor that the work is ready for final inspection and acceptance, the County shall within one week make such inspection. When the County finds the work complete under the contract and the contract fully performed the County will promptly issue a final certificate stating that the work required by this contract has been completed and is accepted by the County under the terms and conditions of the contract. The entire balance found to be due to the Contractor shall be paid to the Contractor by the County within thirty (30) days after the date of the final certificate and receipt of all required Submittals.

## **21. ACCESS TO WORK.**

The County, the County's Representative, the County's inspectors and other testing personnel, inspectors from the Department of Labor and Industry, and others authorized by the County, shall have access to the Work at all times. The Contractor shall provide proper facilities for access and inspection.

## **22. SURVEYS AND LAYOUT.**

(a) When applicable, the County shall furnish the Contractor all necessary documents showing property lines and the location of existing buildings and improvements. The Contractor shall provide competent surveying and engineering services to execute the Work in accordance with the Contract and shall be responsible for the accuracy of these surveying and engineering services.

(b) Such general reference points and benchmarks on the Site as will enable the Contractor to proceed with the Work will be established in the plans and specifications. If the Contractor finds that any previously established reference points have been lost or destroyed, he shall promptly notify the County's Representative.

(c) The Contractor shall protect and preserve the established benchmarks and monuments and shall make no changes in locations without written notice to the County's Representative and the written approval from the County. Any of these which may be lost or destroyed or which require shifting because of necessary changes in grades or locations shall, subject to prior written approval of the County, be replaced and accurately located by the Contractor.

## **23. PLANS AND SPECIFICATIONS.**

(a) The general character and scope of the Work are illustrated by the plans and the specifications. If the Contractor deems additional detail or information to be needed, he may request the same by Field Order in writing from the County's Representative. The request shall precisely state the detail or information needed and shall explain why it is needed. The Contractor shall also indicate a date when the requested information is required.

(b) If the Contractor finds a conflict, error, or other discrepancy in the plans or specifications, he shall notify the County's Representative in writing as soon as possible, but before proceeding with the affected Work.

(c) Measurements or dimensions shown on the drawings for Site features, utilities and structures shall be verified at the Site by the Contractor. The Contractor shall not scale measurements or dimensions from the drawings. If there are discrepancies, the County's Representative shall be consulted.

(d) As-Built Drawings: The Contractor shall maintain at the Site for the County one copy of all drawings, specifications, addenda, approved shop or setting drawings, Change Orders and other modifications (collectively referred to herein as "As-Built Drawings") in good order and marked to record all changes as they occur during construction. These shall be available to the County, the Project Inspector, the County's other inspectors and to the County's testing personnel. The drawings shall be neatly and clearly marked in contrasting color during construction to record all variations made during construction. The representation of such variations shall include such supplementary notes, symbols, legends, and details as may be necessary to clearly show the as-built construction.

(e) Record Drawings: Upon completion of the Work and prior to the final inspection, the Contractor shall deliver to the County's Representative one complete set of "As-Built Drawings" referred to in the preceding subsection.

#### **24. SUBMITTALS.**

(a) The Contractor shall submit a listing of all Submittals required by the County or which the Contractor identifies as necessary, fixing the dates for the submission of shop or setting drawings, samples and product data. The listing shall be in a format acceptable to the County.

(b) Submittals shall be forwarded to the County's Representative for approval if required by the specifications or if requested by the County. No part of the Work dealt with by a Submittal shall be fabricated by the Contractor, save at his own risk, until such approval has been given.

(c) The Contractor shall furnish to the County's Representative for approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature and rating of the machinery and mechanical and other equipment which the Contractor contemplates incorporating in the Work. When Submittals are required by this Contract for materials, the Contractor shall furnish full information concerning the material or articles which he contemplates incorporating in the Work. When required, samples shall be submitted for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material and articles installed or used without required approval shall be at the risk of subsequent rejection.

(d) Submittals shall be accompanied by a letter of transmittal which shall list the Submittals included, the specification section number applicable to each, and the date shown on each Submittal. Submittals shall be complete in every respect and bound in sets. Each Submittal shall be clearly marked to show each item, component and/or optional feature proposed to be incorporated into the Project. Cross reference to the plans or specifications as needed to identify the use for which the item or component is intended.

(e) The Contractor shall check the Submittals for compliance with the requirements of the Contract Documents. The Contractor shall clearly note in writing any and all items which deviate from the requirements of the Contract Documents. Reasons for deviation shall be included with the Submittal.

(f) The Contractor shall forward all Submittals sufficiently in advance of construction requirements to allow reasonable time for checking, correcting, resubmitting and rechecking.

(g) If a Submittal indicates a departure from the Contract requirements, the County may approve or reject the Submittal as the County, in its sole discretion, sees fit. The departure from the Contract requirements shall be further authorized by a Change Order, if a reduction or increase in the Contract Price is appropriate.

(h) The Contractor shall verify that the Submittals conform to the design concept and functional requirements of the plans and specifications, that the detailed design portrayed in shop drawings and proposed equipment and materials shown in Submittals are of the quality specified and will function properly, and that the Submittals comply with the Contract Documents.

## **25. FEES, SERVICES AND FACILITIES**

(a) The Contractor shall obtain all permits, and shall pay for all fees and charges, including, but not necessarily limited to, fees necessary for temporary access and public right-of-way blockage or use, for use of landfill and other waste disposal facilities, for temporary connections to utilities, and for the use of property (other than the Site) for storage of materials and other purposes unless otherwise specifically stated in the Contract Documents.

(b) It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor, either directly or through his Subcontractors, shall provide and pay for all material, labor, tools, equipment, water, light, power, telephone and other services or facilities of every nature whatsoever necessary to execute completely and deliver the Work within the Contract Time for Completion or before the Contract Completion Date.

## **26. EQUALS.**

(a) Brand names: Unless otherwise stated in the specifications, the name of a certain brand, make or manufacturer denotes the characteristics, quality, workmanship, economy of operation and suitability for the intended purpose of the article desired, but does not restrict the Contractor to the specific brand, make, or manufacturer; it is set forth to convey to the Contractor the general style, type, character and quality of the article specified.

(b) Equal materials, equipment or assemblies: Whenever in these Contract Documents, a particular brand, make of material, device or equipment is shown or specified, such brand, make of material, device or equipment shall be regarded merely as a standard. Any other brand, make or manufacturer of a product, assembly or equipment which in the opinion of the County is the equal of that specified, considering quality, capabilities, workmanship, configuration, economy of operation, useful life, compatibility with design of the Work, and suitability for the intended purpose, will be accepted unless rejected by the County as not being equal.

(c) Substitute materials, equipment or assemblies: The Contractor may propose to substitute a material, product, equipment, or assembly which deviates from the requirements of the Contract Documents but which the Contractor deems will perform the same function and have equal capabilities, service life, economy of operations, and suitability for the intended purpose. The proposal must include any cost differentials proposed. If the proposed substitute is acceptable to the County, a Change Order will be proposed to the Contractor to accept the substitute and to deduct the proposed cost savings from the Contract Price. The County shall have the right to limit or reject substitutions at its sole discretion as provided in Virginia Code § 2.2-4315.

(d) The Contractor shall be responsible for making all changes in the Work necessary to adapt and accommodate any equal or substitute product which it uses. The necessary changes shall be made at the Contractor's expense.

## **27. AVAILABILITY OF MATERIALS.**

If a brand name, product, or model number included in the Contract Documents is not available on the present market, alternate equal products or model numbers may be proposed by the Contractor for approval by the County.

## **28. CONTRACTOR'S TITLE TO MATERIALS.**

No materials or supplies for the Work shall be purchased by the Contractor, or by any Subcontractor or Supplier, subject to any security interest, installment or sales contract or any other agreement or lien by which an interest is retained by the seller or is given to a secured party. The Contractor warrants that he has clear and good title to all materials and supplies which he uses in the Work or for which he accepts payment in whole or in part.

## **29. STANDARDS FOR MATERIALS INSTALLATION & WORKMANSHIP.**

- (a) Unless otherwise specifically provided in the Contract, all equipment, material, and accessories incorporated in the Work are to be new and in first class condition.
- (b) Unless specifically approved by the County or required by the Contract, the Contractor shall not incorporate into the Work any materials containing asbestos or any material known by the industry to be hazardous to the health of building construction workers, maintenance workers, or occupants. If the Contractor becomes aware that a material required by the Contract contains asbestos or other hazardous materials, he shall notify the County's Representative immediately and shall take no further steps to acquire or install any such material without first obtaining County approval.
- (c) All workmanship shall be of the highest quality found in the construction industry in every respect. All items of Work shall be done by craftsmen or tradesmen skilled in the particular task or activity to which they are assigned. In the acceptance or rejection of Work, no allowance will be made for lack of skill on the part of workmen. Poor or inferior workmanship (as determined by the County or other inspecting authorities) shall be removed and replaced at Contractor's expense such that the Work conforms to the highest quality standards of the trades concerned, or otherwise corrected to the satisfaction of the County, or other inspecting authority, as applicable.
- (d) Under the various sections of the plans or specifications, where specified items are supplied with the manufacturer's printed instructions, recommendations, or directions for installation, or where such instructions, recommendations, or directions are available, installation of the specified items shall be in strict accordance with the manufacturer's printed instructions unless those instructions contradict the plans or specifications, in which case the County's Representative will be notified for an interpretation and decision.
- (e) Under the various sections of the plans or specifications, where reference is made to specific codes or standards governing the installation of specified items, installation shall in all cases be in strict accordance with the referenced codes and standards. Where no reference is made to specific codes or standards, installation shall conform to the generally recognized applicable standards for first-class installation of the specific item to be installed. Contractors are expected to be proficient and skilled in their respective trades and knowledgeable of the Codes and Standards of the National Fire Protection Association (NFPA), National Electric Code (NEC), Occupational Safety and Health Act (OSHA) and other codes and standards applicable to installations and associated work by his trade.
- (f) Where the manufacturer's printed instructions are not available for installation of specific items, where specific codes or standards are not referenced to govern the installation or specific items, or where there is uncertainty on the part of the Contractor concerning the installation procedures to be followed or the quality of workmanship to be maintained in the installation of specific items, the Contractor shall consult the County's Representative for approval of the



installation procedures or the specific standards governing the quality of workmanship the Contractor proposes to follow or maintain during the installation of the items in question.

(g) During and/or at the completion of installation of any items, the tests designated in the plans or specifications necessary to assure proper and satisfactory functioning for its intended purpose shall be performed by the Contractor or by its Subcontractor responsible for the completed installation. All costs for such testing are to be included in the Contract Price. If required by the Contract Documents, the Contractor shall furnish prior to final inspection the manufacturers' certificates evidencing that products meet or exceed applicable performance, warranty and other requirements, and certificates that products have been properly installed and tested.

### **30. WARRANTY OF MATERIALS AND WORKMANSHIP.**

(a) The Contractor warrants that, unless otherwise specified, all materials and equipment incorporated in the Work under the Contract shall be new, in first class condition, and in accordance with the Contract Documents. The Contractor further warrants that all workmanship shall be of the highest quality and in accordance with the Contract Documents and shall be performed by persons qualified at their respective trades.

(b) Work not conforming to these warranties shall be considered defective.

(c) This warranty of materials and workmanship is separate and independent from and in addition to any of the Contractor's other guarantees or obligations in the Contract or under Virginia law.

(d) The Contractor shall ensure that all manufacturer's warranties and similar guarantees are properly extended to the County and that documents evidencing the same are submitted to the County's Representative prior to final inspection.

### **31. USE OF SITE AND REMOVAL OF DEBRIS.**

(a) The Contractor shall:

(1) Perform the Work in such a manner as not to interrupt or interfere with the operation of any existing activity on, or in proximity to, the Site or with the Work of any other separate contractor;

(2) Store his apparatus, materials, supplies and equipment in such orderly fashion at the Site of the Work as will not unduly interfere with the progress of his Work or the work of any other separate contractor; and

(3) Place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the Work.

(b) The Contractor expressly undertakes, either directly or through his Subcontractor(s), to effect all cutting, filling or patching of the Work required to make the same conform to the plans and specifications, and, except with the consent of the County's Representative, not to cut or otherwise alter the Work of any other separate contractor. The Contractor shall not damage or endanger any portion of the Work or Site, including existing improvements, unless called for by the Contract.

(c) The Contractor expressly undertakes, either directly or through his Subcontractor(s), to clean up frequently all refuse, rubbish, scrap materials and debris caused by his operations, to the end that at all times the Site shall present a neat, orderly and workmanlike appearance. No such refuse, rubbish, scrap material and debris shall be left within the completed Work nor buried on the building Site, but shall be removed from the Site and properly disposed of in the County landfill or otherwise as required by law. The Contractor shall be responsible for the payment of all applicable tipping fees or other disposal fees at any landfill or other waste disposal facility.

(d) The Contractor expressly undertakes, either directly or through his Subcontractor(s), before final payment or such prior time as the County may require, to remove all surplus material, false Work, temporary structures, including foundations thereof, plants of any description and debris of every nature resulting from his operations and to put the Site in a neat, orderly condition; to thoroughly clean and leave reasonably dust free all finished surfaces including all equipment, piping, etc., on the interior of all buildings included in the Contract; and to clean thoroughly all glass installed under the Contract, including the removal of all paint and mortar splatters and other defacements. If the Contractor fails to clean up at the time required herein, the County may do so and charge the costs incurred thereby to the Contractor.

(e) The Contractor shall prevent Site soil erosion, the runoff of silt and/or debris carrying water from the Site, and the blowing of dust or debris off the Site in accordance with the applicable requirements and standards of the Contract and the County's Erosion and Sediment Control and Stormwater Management Regulations.

### **32. TEMPORARY ROADS.**

Temporary roads, if required, shall be established and maintained until permanent roads are accepted, then removed and the area restored to the conditions required by the Contract Documents. Crushed rock, paving and other road materials from temporary roads shall not be left on the Site unless permission is received from the County to bury the same at a location and depth approved by the County.

### **33. SIGNS.**

The Contractor may not, without the prior written consent of the County, erect signs at or near the Site. Signs required by law, such as the posting of building permits, are allowed. No signs shall be erected without prior approval of the County as to purpose, design and location.

### **34. PROTECTION OF PERSONS AND PROPERTY.**

(a) The Contractor expressly undertakes both directly and through his Subcontractors, to take every reasonable precaution at all times for the protection of all persons and property which may come on the Site or be affected by the Contractor's Work.

(b) The Contractor shall be solely responsible for providing on site all necessary safety equipment and supplies and for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.

(c) The Contractor shall continuously maintain adequate protection of all his Work from damage and shall protect the County's property from injury or loss arising in connection with this Contract. He shall make good any such damage, injury or loss, except as may be directly and solely due to errors in the Contract Documents or caused by agents or employees of the County.

The Contractor shall adequately protect adjacent property to prevent any damage to it or loss of use and enjoyment by its owners. The Contractor shall provide and maintain all passageways, guard fences, lights and other facilities for protection as required by public authority, local conditions, or the Contract.

(d) In an emergency affecting the health, safety or life of persons or of the Work, or of the adjoining property, the Contractor, without special instruction or authorization from the County, shall act, at his discretion, to prevent such threatened loss or injury. Also, should he, to prevent threatened loss or injury, be instructed or authorized to act by the County, he shall so act immediately, without appeal.

(f) When necessary for the proper protection of the Work, temporary climate control of a type approved by the County must be provided by the Contractor, at the Contractor's expense, unless otherwise specified.

### **35. CLIMATIC CONDITIONS.**

The Contractor shall suspend activity on and protect any portion of the Work that may be subject to damage by climatic conditions.

### **36. PAYMENTS TO CONTRACTOR.**

(a) When evaluating the Contractor's Request for Payment, the County will consider the value of the Work in place, the value of approved and properly stored materials, the status of the Work on the critical path with regard to the Time for Completion, and the estimated value of the Work necessary to achieve Final Completion. The County will schedule a monthly pay meeting to occur no earlier than the 25th day of the month represented by the payment request or not later than the 5th day of the following month. The Contractor will submit his monthly estimate of Work completed on the Form provided for that purpose by the County so that it is received by the County and the County's Project Manager at least one work day prior to the date scheduled by the County for the monthly pay meeting. The County will review the estimate with the County and the Contractor at the monthly pay meeting, which shall be considered the receipt date, and may approve any or all of the estimate of Work for payment. In preparing estimates, the material delivered to the Site and preparatory Work done shall be taken into consideration, if properly documented as required by Section 20 of these General Conditions, or as may be required by the County so that quantities may be verified. In addition to material delivered to the Site, material such as large pieces of equipment and items purchased specifically for the Project, but stored off the Site in or near Augusta County, may be considered for payment, provided all of the following are accomplished prior to the submission of the monthly payment request in which payment for such materials is requested:

(1) The Contractor must notify the County in writing, at least ten (10) days prior to the submission of the payment request, through the County, that specific items will be stored off Site in a designated, secured place in or near Augusta County. The Schedule of Values must be detailed to indicate separately both the value of the material and the labor/installation for trades requesting payment for stored materials. By giving such notification and by requesting payment for material stored off Site, the Contractor warrants that the storage location is safe and suitable for the type of material stored and that the materials are identified as being the property of the Contractor, and agrees that loss of materials stored off the Site shall not relieve the Contractor of the obligation to timely furnish these types and quantities of materials for the Project and meet the Time for Completion or Contract Completion Date, subject to Section 43 of these General

Conditions. If the storage location is more than 20 miles from the Site, the Contractor may be required to reimburse the County for the cost incurred for travel to the storage location to verify the Contractor's request for payment for materials stored off Site.

(2) Such notification, as well as the payment request, shall:

(a) Itemize the quantity of such materials and document with invoices showing the cost of said materials;

(b) Indicate the identification markings used on the materials, which shall clearly reference the materials to the particular project;

(c) Identify the specific location of the materials, which must be within reasonable proximity to the Site;

(d) Include a letter from the Contractor's Surety which confirms that the Surety on the Performance Bond and the Labor and Material Payment Bond has been notified of the request for payment of materials stored off the Site and agrees that the materials are covered by the bond; and

(e) Include a certificate of all-risk builder's risk insurance in an amount not less than the fair market value of the materials, which shall name the County and the Contractor as co-insureds.

(3) Submittals for such materials have been reviewed and meet the requirements of the Contract Documents, that the stored materials meet the requirement of the plans and specifications, and that such materials conform to the approved Submittals. Should the County deem it necessary to visit the storage site to make such review, the Contractor shall bear the costs incurred therewith.

(4) The County shall notify the Contractor in writing of its agreement to prepayment for materials.

(5) The Contractor shall notify the County in writing when the materials are to be transferred to the Site and when the materials are received at the Site.

(b) Payment will not be made for materials or equipment stored on or off the Site which are not scheduled for incorporation into the Work within the six months next following submission of the request for payment, unless the Contractor has the prior consent of the County, which consent may be granted or withheld by the County in its discretion if, in the opinion of the County, it is not necessary to procure the materials more than six months in advance of use to assure their availability when needed.

(c) No payment shall be made to the Contractor until the Contractor furnishes to the County its Social Security Number (SSN) if an individual, or its Federal Employer Identification Number (FEIN) if a proprietorship, partnership, corporation or other legal entity. No payment shall be made to the Contractor until Certificates of Insurance or other satisfactory evidence of compliance by the Contractor with all the requirements of Section 12 of these General Conditions have been delivered to the County. Further, no payments on the basis of Work performed by a Subcontractor shall be paid by the County until copies of any certificates of insurance required of the Subcontractor under Section 12 have been delivered to the County.

(d) In making such partial payments, five percent (5%) of each payment to the Contractor shall be retained until Final Completion and acceptance of all Work covered by the Contract, unless otherwise provided by any law, regulation or program of the federal government. Such retainage shall be held to assure faithful performance of the Contract and may also be used as a fund to deduct amounts due to or claimed by the County, including, but not limited to, payment to the County of all moneys due for deductive change orders, credits, uncorrected Defective Work, interest, damages, and the like. (§2.2-4333 of the Code of Virginia)

(e) All material and Work for which partial payments are made shall thereupon become the sole property of the County, but this provision shall not relieve the Contractor from the sole responsibility for all materials and Work, including those for which payment has been made, or for the restoration of any damaged materials or Work. Nor shall this provision serve as a waiver of the right of the County to require the fulfillment of all of the terms and conditions of the Contract.

(f) The final payment, which shall include the retainage, less any amounts due to or claimed by the County, shall not become due until the County agree that Final Completion has been achieved and until the Contractor shall deliver to the County a Certificate of Completion by the Contractor and an Affidavit of Payment of Claims, stating that all Subcontractors and Suppliers of either labor or materials have been paid all sums claimed by them for Work performed or materials furnished in connection with this Project less retainage. Amounts due the County which may be withheld from the final payment may include, but are not limited to, amounts due pursuant to Section 3(c), Section 16(a)-(d), Section 31(d), costs incurred to repair or replace Defective Work, costs incurred as a result of the Contractor's negligent acts or omissions or omissions of those for whom the Contractor is responsible, delay damages under Section 43, and any liquidated or actual damages. If all Subcontractors and Suppliers of labor and materials have not been paid the full amount claimed by them, the Contractor shall list each to which an agreed amount of money is due or which has a claim in dispute. With respect to all such Subcontractors and Suppliers, the Contractor shall provide to the County, along with the Affidavit of Payment of Claims, an affidavit from each such Subcontractor and Supplier stating the amount of their subcontract or supply contract, the percentage of completion, the amounts paid to them by the Contractor and the dates of payment, the amount of money still due if any, any interest due the Subcontractor or Supplier pursuant to Section 37(c) below, and whether satisfactory arrangements have been made for the payment of said amounts. If no agreement can be reached between the Contractor and one or more Subcontractors or Suppliers as to the amounts owed to the Subcontractors or Suppliers, the County may, in its discretion, pay such portion of the moneys due to the Contractor which is claimed by the Subcontractor or Supplier into a Virginia Court or Federal Court sitting in Virginia, in the manner provided by law. Said payment into court shall be deemed a payment to the Contractor. Nothing in this Section shall be construed as creating any obligation or contractual relationship between the County and any Subcontractor or Supplier, and the County shall not be liable to any Subcontractor or Supplier on account of any failure or delay of the County in complying with the terms hereof.

(g) Upon successful completion of the final inspection and all Work required by the Contract, including but not limited to the delivery of As-Built drawings, equipment manuals, written warranties, acceptance of the Work by the County and the delivery of the affidavits required in Section 36(f) of these General Conditions, the County shall deliver the written Certificate of Completion to the County, with a copy to the Contractor, stating the entire amount of Work performed and compensation earned by the Contractor, including extra work and compensation therefor. The County may accept the Work for occupancy or use while asserting claims against

the Contractor; disputing the amount of compensation due to the Contractor; disputing the quality of the Work, its completion, or its compliance with the Contract Documents; or any other reason.

(h) Unless there is a dispute about the compensation due to the Contractor, Defective Work, quality of the Work, compliance with the Contract Documents, completion itself, claims by the County, other matters in contention between the parties, or unless monies are withheld pursuant to the Comptroller's Debt Setoff Program, within thirty (30) days after receipt and acceptance of the Schedule of Values and Certificate for Payment in proper form by the County at the monthly pay meeting, which shall be considered the receipt date, the County shall pay to the Contractor the amount approved, less all prior payments and advances whatsoever to or for the account of the Contractor. In the case of final payment, the completed Affidavit of Payment of Claims, the Certificate of Completion by the Contractor and the Certificate of Completion by the County shall accompany the final Schedule of Values and Certificate for Payment which is forwarded to the County for payment. The date on which payment is due shall be referred to as the Payment Date. In the event of disputes, payment shall be mailed on or before the Payment Date for amounts and Work not in dispute, subject to any set offs claimed by the County; provided, however in instances where further appropriations are required by the General Assembly or where the issuance of further bonds is required, in which case, payment shall be made within thirty (30) days after the effective date of such appropriation or within thirty (30) days after the receipt of bond proceeds by the County. All prior estimates and payments including those relating to extra Work may be corrected and adjusted in any payment and shall be corrected and adjusted in the final payment. In the event that any request for payment by the Contractor contains a defect or impropriety, the County shall notify the Contractor of any defect or impropriety which would prevent payment by the Payment Date, within five (5) days after receipt of the Schedule of Values and Certificate for Payment from the County.

(i) Interest shall accrue on all amounts owed by the County to the Contractor which remain unpaid seven (7) days following the Payment Date. Said interest shall accrue at the discounted ninety-day U.S. Treasury bill rate as established by the Weekly Auction and as reported in the publication entitled The Wall Street Journal on the weekday following each such Weekly Auction. During the period of time when the amounts due to the Contractor remain unpaid following the seventh (7) day after the Payment Date, the interest accruing shall fluctuate on a weekly basis and shall be that established by the immediately prior Weekly Auction. It shall be the responsibility of the Contractor to gather and substantiate the applicable weekly interest rates to the satisfaction of the County and to calculate to the satisfaction of the County the interest due. In no event shall the rate of interest charge exceed the rate of interest charged pursuant to § 58.1-1812 of the Code of Virginia. No interest shall accrue on retainage or when payment is delayed because of disagreement between the County and the Contractor regarding the quantity, quality or timeliness of the Work, including, but not limited to, compliance with Contract Documents or the accuracy of any Request for Payment received. This exception to the accrual of interest stated in the preceding sentence shall apply only to that portion of a delayed payment which is actually the subject of such a disagreement and shall apply only for the duration of such disagreement. Nothing contained herein shall be interpreted, however, to prevent the withholding of retainage to assure faithful performance of the Contract. These same provisions relating to payment of interest to the Contractor shall apply also to the computation and accrual of interest on any amounts due from the Contractor to the County for deductive change orders and to amounts due on any claims by the County. The date of mailing of any payment by the U.S. Mail is deemed to be the date of payment to the addressee.

(j) The acceptance by the Contractor of the final payment shall be and operate as a release to the County of all claims by the Contractor, its Subcontractors and Suppliers, and of all liability to the

Contractor whatever, including liability for all things done or furnished in connection with this Work, except for things done or furnished which are the subject of unresolved claims for which the Contractor has filed a timely written notice of intent, provided a claim is submitted no later than sixty (60) days after final payment. Acceptance of any interest payment by the Contractor shall be a release of the County from claims by the Contractor for late payment.

(k) No certificate for payment issued by the County, and no payment, final or otherwise, no certificate of completion, nor partial or entire use or occupancy of the Work by the County, shall be an acceptance of any Work or materials not in accordance with the Contract, nor shall the same relieve the Contractor of responsibility for faulty materials or Defective Work or operate to release the Contractor or his Surety from any obligation under the Contract, the Standard Performance Bond and the Standard Labor and Material Payment Bond.

### **37. PAYMENTS BY CONTRACTOR**

Under Virginia Code § 2.2-4354:

(a) The Contractor is obligated to take one of the two following actions within seven (7) days after receipt of amounts paid to the contractor by the County for work performed by subcontractors under that contract:

(1) Pay subcontractors for the proportionate share of the total payment received from the County attributable to the work performed by the subcontractors under that contract; or

(2) Notify the County and subcontractor, in writing, of his intention to withhold all or a part of any subcontractor's payment with the reason for nonpayment.

(b) Individual Contractors are required to provide their social security numbers; and proprietorships, partnerships, and corporations are required to provide their federal employer identification numbers.

(c) The Contractor is obligated to pay interest to a subcontractor on all amounts owed by the Contractor that remain unpaid after seven days following receipt by the Contractor of payment from the County for work performed by the subcontractor under that contract, except for amounts withheld as allowed in subdivision a.

(d) Unless otherwise provided under the terms of this contract, interest shall accrue at the rate of one percent (1%) per month.

(e) The Contractor is further required to include in each of its subcontracts a provision requiring each subcontractor to include or otherwise be subject to the same payment and interest requirements with respect to each lower-tier subcontractor.

(f) The Contractor's obligation to pay an interest charge to a subcontractor pursuant to the payment clause in this section shall not be construed to be an obligation of the County. A contract modification shall not be made for the purpose of providing reimbursement for the interest charge. A cost reimbursement claim shall not include any amount for reimbursement for the interest charge.

### **38. CHANGES IN THE WORK.**

(a) Requests for Change Orders may be initiated by any party at any time. The County may, by written Change Order and without notice to the sureties, approve changes in the Work which are within the general scope of the Contract. However, no change will be made which will increase the total Contract Price to an amount more than twenty percent (20%) in excess of the original Contract Price without notice to sureties.

(b) In making any change, the charge or credit for the change shall be determined by a mutually agreed fixed amount change to the Contract Price and/or time allowed for completion of the Work. The following procedure shall be followed:

(1) The party receiving the proposed change shall review the proposed change and shall respond in writing within fourteen (14) days after receipt of the proposed change, stating the effect of the proposed change upon the Work, including any increase or decrease in the Contract time and Price.

(2) The Contractor shall furnish to the County an itemized breakdown of the quantities and prices used in computing the proposed change in Contract Price.

(3) The County shall review the Contractor's proposed price and respond to the Contractor within thirty (30) days of receipt. If a change to the Contract Price and time for performance are agreed upon, both parties shall sign the Change Order. Changes to the Contract time and/or Price shall be effective when signed by both parties.

(4) Change Order shall be substantiated by documentation itemizing the estimated quantities and costs of all labor, materials and equipment required as well as any mark-up used. The price change shall include the Contractor's overhead and profit.

(5) All Change Orders must state that the Contract Time for Completion or Contract Completion Date is not changed or is either increased or decreased by a specific number of days. The old Time for Completion and, if changed, the new Time for Completion must be stated.

(6) If the parties are unable to agree on the terms of a Change Order, the matters in dispute shall be resolved as provided in § 47 of these General Conditions unless an alternative procedure is set forth in the Supplemental Conditions.

### **39. EXTRAS.**

If the Contractor claims that any instructions given to him by the County, by drawings or otherwise, involve extra Work which increases the scope of the Contract, then, except in emergencies endangering life or property, he shall give the County written notice thereof before proceeding to execute the Work. Said notice shall be given promptly enough to avoid delaying the Work and in no instance later than fourteen (14) days after the receipt of such instructions. Should it not be immediately clear to the Contractor that the change involves extra Work outside the scope of the Contract, written notice shall be sufficient if given as soon as possible after such realization, but in no event later than fourteen (14) days after the start of such Work. If the County agrees, a Change Order shall be issued as provided in Section 38 of these General Conditions, and any additional compensation shall be determined as provided in said Section. Except as otherwise specifically provided, no claims for extra Work shall be allowed unless



timely notice, as required by this Section, is given by the Contractor and unless such Work is performed pursuant to written Change Order as provided in Section 38.

*“[Section 40 Omitted.]”*

**41. COUNTY’S RIGHT TO TERMINATE THE CONTRACT FOR CAUSE.**

(a) If the Contractor should be adjudged as bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, the County may terminate the Contract. If the Contractor should refuse or should repeatedly fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials and equipment, or if he should fail to make prompt payment to Subcontractors or Suppliers of material or labor, or if he should disregard laws, ordinances or the written instructions of the County, or otherwise be in substantial violation of any provision of the Contract, then the County may terminate the Contract.

(b) Prior to termination of the Contract, the County shall give the Contractor and his surety ten (10) days written notice pursuant to Section 1 ("Notice") of these General Conditions, during which the Contractor and/or his surety may rectify the basis for the notice. If rectified to the satisfaction of the County within said ten (10) days, the County may rescind its notice of termination. If not, the termination for cause shall become effective at the end of the ten (10) day notice period. In the alternative, the County may, in writing, postpone the effective date of the termination for cause, at its sole discretion, if it should receive reassurances from the Contractor and/or its surety that the basis for the termination will be remedied in a time and manner which the County finds acceptable. If at any time after such postponement, the County determines that Contractor and/or its surety has not or is not likely to rectify the causes of termination in an acceptable manner or within the time allowed, then the County may immediately terminate the Contract for cause, without the necessity of further ten (10) day notice, by notifying the Contractor and his surety in writing of the termination. In no event shall termination for cause terminate the obligations of the Contractor's surety on its payment and performance bonds.

(c) Upon termination of the Contract, the County shall take possession of the Site and of all materials, tools and equipment thereon and finish the Work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment. If the expense of finishing the Work, including compensation for additional managerial and administrative services, shall exceed the unpaid balance of the Contract Price, the Contractor shall pay the difference to the County, together with any other expenses of terminating the Contract and having it completed by others.

(d) If it should be judicially determined that the County improperly terminated this Contract for cause, then the termination shall be deemed to be a termination for the convenience of the County.

(e) Termination of the Contract under this Section is without prejudice to any other right or remedy of the County.

**42. TERMINATION BY COUNTY FOR CONVENIENCE.**

(a) County may terminate this Contract, in whole or in part, at any time without cause upon giving the Contractor written notice of such termination pursuant to Section 1 ("Notice") of these General Conditions. Upon such termination, the Contractor shall immediately cease Work and

remove from the Site all of its labor forces and such of its materials as County elects not to purchase or to assume in the manner hereinafter provided. Upon such termination, the Contractor shall take such steps as County may require to assign to the County the Contractor's interest in all Subcontracts and purchase orders designated by County. After all such steps have been taken to County's satisfaction, the Contractor shall receive as full compensation for termination and assignment the following:

(1) All amounts then otherwise due under the terms of this Contract based upon approved Requests for payment.

(2) Amounts due for Work performed in accordance with the Contract subsequent to the latest approved Request for Payment through the date of termination.

(3) Reasonable compensation for the actual cost of demobilization incurred by the Contractor as a direct result of such termination.

The Contractor shall not be entitled to any compensation or damages for lost profits or for any other type of contractual compensation or damages other than those provided by this section. Upon payment of the foregoing, County shall have no further obligations to Contractor of any nature.

(b) In the event the parties cannot agree on the whole amount to be paid to the Contractor by reason of termination under this section, the County shall pay the amounts, as determined by the County's Representative, as follows, without duplicating any amounts which may have already been paid under the preceding paragraph of this section:

(1) All amounts then otherwise due under the terms of this Contract based upon approved Requests for payment.

(2) Amounts due for Work performed in accordance with the Contract subsequent to the latest approved Request for Payment through the date of termination, which shall be the total of:

(a) cost of work performed or supplies delivered;

(b) the costs of settling and paying any reasonable claims to subcontractors and suppliers; and

(c) a mark-up of ten percent (10%) for profit and overhead.

(3) Reasonable compensation for the actual cost of demobilization incurred by the Contractor as a direct result of such termination.

The total sum to be paid shall not exceed the contract price, as reduced by the amount of payments otherwise made, and as further reduced by the contract price of work not done or supplies not delivered. If there is evidence that the Contractor would have sustained a loss on the entire Project had it been completed, no profit shall be included or allowed hereunder and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss.

(c) In the event the Contractor is not satisfied with any payments which the County's Representative shall determine to be due under this section, the Contractor may proceed in accordance with Section 47, "Contractual Disputes."

(d) In no event shall termination for the convenience of the County terminate the obligations of the Contractor's surety on its payment and performance bonds.

### **43. DAMAGES FOR DELAYS; EXTENSION OF TIME**

(a) If the Contractor is delayed at any time in the progress of the Work by any act or omission of the County, its agents or employees or any separate independent contractor of the County, and the act or omission is the result of or is necessitated by causes outside the County's control; or if the Contractor is delayed by strikes, fires, unusual delays in transportation or unavoidable casualties, or other causes outside the County's or Contractor's control, the Contractor shall give the County written notice within ten (10) days of the inception of the delay. The County shall extend the time for Substantial Completion or Final Completion, as the case may be, for the length of time that the Substantial Completion or Final Completion of the Work was actually delayed thereby, and the Contractor shall not be charged with liquidated or actual damages for delay during the period of such extension nor shall the Contractor be due compensation or damages of any kind, under any theory of law, as a result of such delay, the impact of such delay, or acceleration of Work as a result of such delay. In the event a CPM schedule is required by the Contract, no extension of the time allowed for Substantial Completion shall be granted unless the Contractor demonstrates a delay in the critical path of the approved CPM schedule or approved bar graph schedule.

(b) If the Contractor is delayed at any time in the progress of the Work by any act or omission of the County, its agents or employees, due to causes within their control, or delayed by the County's separate, independent contractors, when such delay results from causes within the County's control, and the Contractor intends to seek additional compensation for damages, if any, caused by the delay, the Contractor shall inform the County immediately at the time of the occurrence giving rise to the delay by the fastest means available and shall give written notice no later than two (2) working days after inception of the delay. The Contractor's notice to the County shall specify the nature of the delay claimed by the Contractor, the cause of the delay and the impact of the delay on the Contractor's Work schedule. The County shall then have three (3) working days to respond to the Contractor's notice with a resolution, remedy or direction to alleviate the delay or with a notice rejecting the claim for delay alleged to be caused by the County or parties for whom the County is responsible. If the issue is not then resolved, the Contractor may submit a request for Change Order in accordance with Section 36 or submit a claim as provided for in Section 45. The Contractor shall only be entitled to additional compensation if the delay was unreasonable and was caused solely by acts or omissions of the County, its agents or employees, due to causes within their control, or was caused by the County's separate, independent contractor, when such delay resulted solely from causes within the County's control.

(c) The Contractor shall not be entitled to an extension of the Time for Completion or Contract Completion Date or to any additional compensation for delays caused by acts or omissions of the Contractor due to causes within his control, including, but not limited to, delays resulting from Defective Work including workmanship and/or materials, from rejected work which must be corrected before dependent work can proceed, from Defective Work or rejected work for which corrective action must be determined before like work can proceed, or from incomplete, incorrect or unacceptable Submittals or samples.

(d) No extension of time or additional compensation, if applicable, will be granted for any delay unless the claimed delay directly affects the critical path of the approved CPM schedule or the schedule shown on the approved bar graph schedule, whichever is applicable, and any float has been consumed. No extension of time or additional compensation shall be given for a delay if the Contractor failed to give notice in the manner and within the time prescribed in Subsections (a) or (b) above, whichever applies. Furthermore, no extension of time or additional compensation shall be given for any delay unless a claim therefor is made in writing to the County within twenty (20) days of the end of the delay. The claim shall state the cause of the delay, the number of days of extension requested and any compensation requested by the Contractor. The Contractor shall report the termination of the delay to the County not less than ten (10) days after such termination. Failure to give notice of either the inception or the termination of the cause of delay or failure to present a claim for extension of time and/or monetary compensation within the times prescribed shall constitute a waiver of any claim for extension or additional compensation based upon that cause.

(e) Requests for compensation for delays pursuant to Subsection (b) above must be substantiated by itemized data and records clearly showing that the Work delayed could not be completed within the approved schedule, and that the additional costs incurred by the Contractor are directly attributable to the delay in the Work claimed. Furthermore, compensation for delay shall be calculated from the contractual Time for Completion or Contract Completion Date, as adjusted by Change Order, and shall not be calculated based on any early completion planned or scheduled by the Contractor, unless a Change Order has been executed changing the Time for Completion or the Contract Completion Date to reflect such early completion.

If there is an extension in the Time for Completion or the Contract Completion Date and if the Contractor is entitled to additional compensation for the delay, and where there is no change in the Work, an itemized accounting of the following direct Site overhead expenses will be considered as allowable costs to be used in determining the compensation due the Contractor:

Site superintendent pro rata salary, temporary Site office expense, temporary Site facilities, and temporary Site utilities including basic telephone service, electricity, heat, water, and sanitary/toilets. A fifteen percent (15%) markup of these expenses will be allowed to compensate the Contractor for home office and other direct or indirect overhead expenses.

(f) If the Contractor submits a claim for delay damages, the Contractor shall be liable to the County for a percentage of all costs incurred by the County in investigating, analyzing, negotiating and litigating the claim, which percentage shall be equal to the percentage of the Contractor's total delay claim which is determined through litigation to be false or to have no basis in law or in fact.

(g) Any change in the Contract Time for Completion or Contract Completion Date shall be accomplished only by issuance of a Change Order.

(h) If the Contractor fails to complete the Work within the Time for Completion or the Contract Completion Date, the Contractor shall be liable to the County in the amounts set forth in subsection (j) below not as a penalty, but as fixed, agreed and liquidated damages for delay until the Work is substantially or finally completed as the case may be. If liquidated damages are not so fixed in subsection (j), the Contractor shall be liable for any and all actual damages sustained as a result of delay. In addition to damages for delay, whether liquidated or actual, the Contractor shall also be liable for any and all actual damages sustained by the County as a result of any other

breach of the Contract, including, but not limited to, Defective Work and abandonment of the Contract.

(i) If the Contractor fails to complete the Work by the Time for Completion or Contract Completion Date, the following provisions apply:

(1) The Contractor shall owe to the County, not as a penalty but as liquidated damages, the sum stated in subsection (j) below as “step one” liquidated damages for each and every partial or total calendar day of delay in Substantial Completion.

(2) Once the Work is substantially complete, the accrual of “step one” liquidated damages shall cease, and the Contractor shall have thirty (30) calendar days in which to achieve Final Completion of the Work.

(3) If Final Completion of the Work is not achieved on or before the thirtieth (30<sup>th</sup>) calendar day after Substantial Completion, and if the County has not granted any extension of time, the Contractor shall owe to the County, not as a penalty but as liquidated damages, the sum stated in subsection (j) below as “step two” liquidated damages for each and every partial or total calendar day of delay in Final Completion.

(j) Time is of the essence of the contract. Should the Contractor fail to complete the Work within the time agreed upon in the Contract or within such extra time as may have been allowed by Change order, there may be deducted from any sums due or that may become due the Contractor the sum set forth in the following schedule for each and every calendar day, exclusive of Sundays and legal holidays, that the Work shall remain uncompleted. This sum shall be considered and treated not as a penalty but as liquidated damages due the County from the Contractor by reason of inconvenience to the public, added cost of engineering and supervision, operation of alternative public services, and other factors which have caused the expenditure of public funds resulting from the contractor’s failure to complete the work within the time specified in the contract.

Schedule of Liquidated Damages

Step One	\$ 100.00 per day
Step Two	\$ 250.00 per day

(k) Each party hereby waives any claim or defense as to the validity of any liquidated damages stated in this Agreement as they may appear on the grounds that such liquidated damages are void as penalties or are not reasonably related to actual damage.

(l) Completion of the Work, for purposes of this section, shall occur upon preliminary acceptance of all the Work required by the contract documents. Permitting the Contractor to continue and finish the Work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended by Change Order, shall in no way operate as a waiver on the part of the County of any of its rights under the Contract.

**44. INSPECTION FOR SUBSTANTIAL COMPLETION & FINAL COMPLETION**

(a) The Contractor shall notify the County, in writing by "Certificate of Partial or Substantial Completion," of the date when the Work or designated portion thereof, will be, in his opinion,

substantially complete and ready for inspection and testing to determine if it has reached Substantial Completion. The notice shall be given at least ten (10) days in advance of said date. Inspection and testing shall take place at a time(s) mutually agreeable to the Contractor and County.

The inspection shall include a demonstration by the Contractor that all equipment, systems and operable components of the project function properly and in accordance with the Contract Documents. The Contractor shall furnish access for the inspection and testing. The inspection and testing shall determine whether Substantial Completion has been accomplished and shall result in either: (a) a written notice that the County does not consider the Work to be substantially complete accompanied by a written list of unfinished Work and Defective Work which must be completed or corrected before the County will concur that the Work is substantially complete, or (b) a written confirmation by the County that the Work is substantially complete accompanied by a written list of unfinished Work and Defective Work, commonly referred to as a "punch list", which must be finished and corrected to obtain Final Completion. If the County has not concurred that the Work is substantially complete, the Contractor shall provide the County another Certificate of Partial or Substantial Completion notifying the County of the date when, in his opinion, the listed items of unfinished Work or Defective Work will be substantially complete and ready for inspection.

(b) The Contractor shall notify the County, in writing, of the date when the Work will reach Final Completion and will be ready for final inspection and testing. The notice shall be given at least five (5) days in advance of said date. That inspection and any necessary testing shall be conducted in the same manner as the inspection for Substantial Completion. When the Work is finally and totally complete, including the elimination of all defects, the Work shall be finally accepted by the County and final payment shall be made in accordance with these General Conditions.

(c) The County's Representative shall conduct the inspections. The County may elect to have other persons of its choosing also participate in the inspections. If one or more Substantial or Final Completion re-inspections are required, the Contractor shall reimburse the County for all costs of re-inspection or, at the County's option, the costs may be deducted from payments due to the Contractor.

(d) Approval of Work at or as a result of any inspection required herein shall not release the Contractor or his surety from responsibility for complying with the Contract.

#### **45. GUARANTEE OF WORK**

(a) Except as otherwise specified, all Work shall be, and is hereby, guaranteed by the Contractor against defects resulting from the use of materials, equipment or workmanship, which are defective, inferior, or not in accordance with the terms of the Contract, for one (1) year from the date of Final Completion of the entire Project by the County. Equipment and facilities which have seasonal limitations on their operation (e.g. heating or air conditioning units) shall be guaranteed for one (1) full year from the date of seasonally appropriate tests and acceptance, in writing, by the County. Where the County agrees to take Beneficial Occupancy of a portion or phase of the Work which has been determined to be substantially complete before the entire Work is finally completed, the guarantees for the materials, equipment and workmanship in that portion or phase shall begin on the date that the County takes Beneficial Occupancy, unless otherwise specified in the Supplemental Conditions or by separate agreement.

(b) If, within any guarantee period, Work which is not in accordance with the Contract, Defective Work, or inferior material, equipment or workmanship is noted by the County which requires or renders necessary repairs or changes in connection with the guaranteed Work, the Contractor shall, promptly upon receipt of notice from the County, such notice being given not later than two (2) weeks after the guarantee period expires, and without expense to the County:

(1) Place in satisfactory condition in every particular all of such guaranteed Work and correct all defects, inferior materials, equipment or workmanship therein;

(2) Make good all damage to the structure or Site or equipment or contents thereof, which, in the opinion of the County, is the result of the use of materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the Contract; and

(3) Make good any Work or materials or the equipment and contents of structures and/or Site disturbance that results from fulfilling the provisions of this Section.

(c) In any case, when in fulfilling the requirements of the Contract and this guarantee or any other guaranty or warranty, the Contractor disturbs any work performed by a separate contractor, he shall restore such work to a condition satisfactory to the County and guarantee such restored work to the same extent as if it was guaranteed under this Contract.

(d) If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee as set forth in this Section, the County may have the defects or inferior materials, equipment or workmanship corrected and the Contractor and his surety shall be liable for all expense incurred.

(e) All special warranties and guarantees applicable to definite parts of the Work that may be stipulated in or required by the Contract Documents shall be subject to the terms of this Section during the first year of the life of such special warranty or guarantee.

(f) The guarantee of this Section shall be in addition to and not in lieu of all other warranties, express or implied, applicable to or arising from this Contract or by law.

(g) Nothing contained in this Section shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including liability for Defective Work. This Section relates only to the specific obligation of the Contractor as set forth in this Section to correct the Work and does not limit the time within which his obligation to comply with the Contract Documents may be sought to be enforced, nor the time within which proceedings may be commenced to establish the Contractor's liability with respect to his other obligations under the Contract Documents.

(h) In the event the Work of the Contractor is to be modified by another contractor, either before or after the Final Inspection, the first Contractor shall remain responsible in all respects under this Section's Guarantee of Work and under any other warranties or guarantees, express or implied, applicable to or arising from this Contract or by law. However, the Contractor shall not be responsible for any defects in material or workmanship introduced by the contractor modifying his Work. The first Contractor and the contractor making the modifications shall each be solely responsible for his respective work. The contractor modifying the earlier Work shall be responsible for any damage to or defect introduced into the Work by his modification. If the first contractor claims that a subsequent contractor has introduced defects of materials and/or workmanship into his Work, it shall be the burden of the contractor making the claim to

demonstrate clearly the nature and extent of such introduced defects and the other contractor's responsibility for those defects. Any contractor modifying the work of another shall have the same burden if he asserts that defects in his work were caused by the contractor whose work he is modifying.

#### **46. ASSIGNMENTS.**

Neither party to the Contract shall assign the Contract in whole or any part without the written consent of the other, nor shall the Contractor assign any moneys due or to become due to him hereunder, without the prior written consent of the County. No assignment shall relieve any party from its obligations under the Contract.

#### **47. CONTRACTUAL DISPUTES.**

(Virginia Code § 2.2-4363)

(a) Contractual claims, whether for money or for other relief, shall be submitted, in writing, no later than sixty (60) days after final payment; however, written notice of the Contractor's intention to file such claim must be given at the time of the occurrence or beginning of the Work upon which the claim is based. The filing of a timely notice is a prerequisite to recovery under this Section. Although the Contractor may be required to submit certain classes of claims prior to final payment, and the Contractor is not prevented from filing claims during the pendency of the Work, the County shall not be obligated to render a final written decision on any claim until after final payment. All claims shall be submitted along with all practically available supporting evidence and documentation.

(b) No written decision denying a claim or addressing issues related to the claim, if rendered prior to final payment, shall be considered a denial pursuant to this Section unless the written decision makes express reference to this Section and is signed by the County. The Contractor may not institute legal action prior to receipt of the County's final written decision on the claim unless the County fails to render such a decision within ninety (90) days of submission of the claim or within ninety (90) days of final payment, whichever is later.

(c) The decision of the County shall be final and conclusive unless the Contractor within six (6) months of the date of the final decision on a claim, initiates legal action as provided in § 2.2-4364 of the Code of Virginia. Failure of the County to render a decision within 90 days shall not result in the Contractor being awarded the relief claimed nor shall it result in any other relief or penalty. The sole result of the County's failure to render a decision within 90 days shall be the Contractor's right to immediately institute legal action. No administrative appeals procedure pursuant to § 2.2-4364 of the Code of Virginia has been established for contractual claims under this Contract.

*“[Section 48 Omitted.]”*

#### **49. TRAINING, OPERATION AND MAINTENANCE OF EQUIPMENT.**

(a) As a part of the Work, the Contractor in conjunction with his Subcontractors and Suppliers shall provide the County's operations and maintenance personnel with adequate instruction and training in the proper operation and maintenance of any equipment, systems, and related controls provided or altered in the Work. The training requirements may be further defined in the Contract Documents.



(b) The Contractor shall provide the County with a minimum of two (2) copies of operating, maintenance and parts manuals for all equipment and systems provided in the Work. Further specific requirements may be indicated in the Contract Documents.

## **50. PROJECT MEETINGS.**

The intention of this section is to enable the County and the Contractor to have a timely exchange of information and to accomplish the Work in a cooperative manner as required by the Contract Documents. The Contractor is responsible for managing the Work, obtaining approvals and requesting clarifications on a timely, reasonable basis. The County is responsible for making a reasonable effort to provide timely responses to the Contractor.

### **Preconstruction Meeting:**

(a) Prior to the start of construction, a "Pre-construction" meeting shall be held. In attendance should be: (a) the County's Representative and Project Inspector, if any; (b) when appropriate, representatives of each design discipline involved in the Project; (c) the Contractor's Representative and superintendent and, representatives of the Contractor's major Subcontractors, if any; and (d) such other persons either the County or the Contractor may invite. No decisions made at this meeting shall be binding unless appropriate Field Orders or Change Orders are issued. This meeting is to exchange certain information and to clarify and discuss various topics, including but not necessarily limited to, the following:

(1) Persons involved from each entity and their chain of authority including the names of persons authorized to sign Change Orders and any limits to their authority.

(2) Names, addresses, telephone numbers and FAX numbers to be used for requests for information or clarification, requests for Change Orders, and distribution of shop drawings, Submittals, and notices.

(3) Contractor's proposed construction schedule and County's sequencing requirements, if any.

(4) Procedures for submission of shop drawings, product data and other Submittals, if any.

(5) Procedures for handling Field Orders and Change Orders, if any.

(6) Procedures for Contractor's request for time extension, if any.

(7) Construction Site requirements, procedures and clarifications to the manner of conducting the Work Site specialties, including: dust, erosion control, stormwater management, project signs, clean up and housekeeping, temporary facilities, utilities, security, traffic, and safety layout.

(8) Quality control, testing, inspections, notices required, the tentative schedule of Site visits by the County's Representative and others, and any proposed changes to the Project Inspector's duties

(9) Creation, maintenance and distribution of project records.

(10) Procedures for submission of Requests for Payment.

**Project Meetings and Progress Reports:**

(b) Attendance at Project Meetings: Unless stated otherwise in the Supplemental Conditions, project meetings will be scheduled once a week. Invitees to all project meetings shall include representatives from the Contractor and the County. When appropriate, representatives of subcontractors should also be present. Under no circumstances shall project meetings be considered a reason for extensions of time or damages for delay.

(c) Purpose of Project Meetings: The purpose of project meetings shall be to facilitate the timely exchange of information and cooperate to accomplish the Work as required by the Contract Documents. The meeting is an opportunity to discuss status and workmanship of Work in progress, pending requests for payment, compliance with construction schedule, requests for clarification, pending Change Orders, running punch list items, and potential problems which need attention. No decisions made at this meeting shall be binding unless appropriate Field Orders or Change Orders are issued.

(d) Progress Reports: The first item to be discussed at a project meeting will normally be the presentation of a progress report by the Contractor. Written progress reports may be required by the Supplemental conditions. The Contractor shall review progress not less than each month, but as often as necessary to properly manage the Project and stay on schedule. The Contractor shall collect and preserve information on Change Orders, including extensions of time. The Contractor shall evaluate this information and update the latest accepted schedule as often as necessary to finish before the Contract Completion Date.

(e) Performance Delay: If any elements of the Work are behind schedule, regardless of whether they may prevent the Work from being completed on time, the Contractor must indicate in writing in his progress report what measures he is taking and plans to take to bring each such element back on schedule and to ensure that the Contract Completion Date is not exceeded. Should any of the following conditions exist, the County may require the Contractor to prepare, at no extra cost to the County, a plan of action and a recovery schedule for completing the Work by the Contract Completion Date:

(1) The Contractor's progress report(s) indicates delays that are, in the opinion of the County, of sufficient magnitude that the Contractor's ability to complete the Work on time is brought into question;

(2) The Contractor's progress report(s) indicates delays that are, in the opinion of the County, of sufficient magnitude to put the Contractor thirty (30) or more days behind at any time during construction.

(3) The Contractor desires to make changes in the sequencing of Work or the planned duration of future activities which, in the opinion of the County, are of a major nature.

The plan of action, when required, shall explain and display how the Contractor intends to regain compliance with the accepted Contract Completion Date, as updated by approved Change Orders. It shall be submitted to the County for review within five (5) business days of the Contractor receiving the County's written demand.

**COUNTY OF AUGUSTA, VA**  
**IFB NO# 81010-23-02**  
**SPECIAL TERMS AND CONDITIONS**

*In the event there is a conflict between any of the other General Terms and Conditions and any Special Terms and Conditions in this solicitation, the Special Terms and Conditions shall apply.*

- 1) Prior to the start of any construction activities the Contractor shall attend a pre-construction meeting with representatives of Augusta County and other appropriate parties for the purposes of scheduling the work and coordination.
- 2) A Land Disturbance Permit shall be required for this project and will be obtained by the Contractor. All work shall be performed in accordance with the latest edition of the Virginia Erosion and Sediment Control Manual.
- 3) A Storm Water Pollution Prevention Plan (SWPPP) is provided by the County and the Contractor will obtain General Permit coverage including the fees associated with the approximated 0.35 acres disturbed at estimated \$500. The Contractor shall maintain a copy of the SWPPP onsite at all times and shall adhere to all provisions and requirements of the SWPPP. If the County does not elect to take ownership of the Contractor's registration to itself or another Contractor, Contractor will submit Notice of Termination when the project is complete and accepted by the County.
- 4) The Contractor shall be responsible for the disposal of all excess materials (including but not limited to undercut, root mat, topsoil and or fill material), obtaining borrow material and the suitability of all on-site material above subgrade. No extra payment will be made for disposal or importing of soils to the project site regardless of the suitability or unsuitability of on-site soils.
- 5) Whenever the Contractor's operations affect vehicular or pedestrian traffic, the Contractor shall be responsible for furnishing, installing and maintaining any and all safety control devices in accordance with the VDOT *Work Area Protection Manual* and as deemed necessary by VDOT and the Engineer.
- 6) If the bid option for paving is exercised, final surface pavement for the parking lot shall not be placed until after the boat launch and trail improvements are complete and that portion of the site is demobilized.
- 7) The Contractor is reminded that bids shall be **LUMP SUM** and shall include **ALL WORK** necessary to complete the project to the full intent of the plans. In the event of additions or deductions to the work required by the Contract Documents, the Contractor will be paid extra or shall credit the Owner, as the case may be, on the basis of the unit prices quoted on the Bid Schedule. References to "pay items" shown on the plans or specifications are not relevant for this contract.
- 8) ACB mats to be installed for the boat launch will be delivered to the job site by the County.

**The following is a list of attachments that are additional documents incorporated with this Invitation for Bid #81010-23-02.**

1. DRAWINGS, number of separate sheets (files) 5

# COUNTY OF AUGUSTA, VIRGINIA

## IFB#81010-23-02

### SPECIFICATIONS

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**GENERAL:** The County of Augusta is seeking a Class A Contractor for improvements along the South River in the vicinity of Dooms Crossing Road.

[SECTION 02100 - SITE CLEARING](#)

[SECTION 02170 - EROSION AND SEDIMENT CONTROL](#)

[SECTION 02200 - EARTHWORK](#)

[SECTION 02510 - ASPHALT CONCRETE PAVING](#)

[SECTION 02930 - LAWNS AND GRASSES](#)

[Section 617. — GUARDRAIL](#)

#### **SECTION 02100 - SITE CLEARING**

##### **PART 1 - GENERAL**

###### **1.01 RELATED DOCUMENTS:**

Drawings and general provisions of Contract, including General and Supplemental Conditions and other Specification sections, apply to work of this section.

Virginia Department of Transportation (VDOT) Road and Bridge Specifications, Road and Bridge Standards and Work Area Protection Manual, all latest edition.

ACSA Design and Construction Standards, latest edition.

Virginia Erosion and Sediment Control Handbook, latest edition.

###### **1.02 DESCRIPTION OF WORK:**

Extent of site clearing is shown on drawings as the Limits of Disturbance (LOD).

Site clearing work includes, but is not limited to:

- Protection of existing trees;
- Removal of trees and other vegetation;
- Topsoil stripping and stockpiling;
- Clearing and grubbing;
- Removal of above-grade and below-grade improvements;
- Backfilling to original level of any depressions resulting from such removal; and
- Removal and disposal of trash, dumped material and other debris found on the site.

###### **1.03 JOB CONDITIONS:**

1.03.1 Traffic: Conduct site clearing operations to ensure minimum interference with roads, streets, and other adjacent occupied or used facilities. Do not close or obstruct streets, driveways, or other occupied or used facilities without permission from authorities having jurisdiction. Access to adjoining properties shall be maintained at all times. Work within an existing roadway shall be in accordance with VDOT's Work Area Protection Manual.

- 1.03.2 Protection of Existing Improvements: Provide protection necessary to prevent damage to existing improvements indicated to remain in place. Protect improvements on adjoining properties and within VDOT right of way. Restore damaged improvements to their original condition, as acceptable to parties having jurisdiction.
- 1.03.3 Protection of Existing Trees and Vegetation: Protect existing trees and other vegetation indicated to remain in place, against unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary guards to protect trees and vegetation to be left standing.

## PART 2 - PRODUCTS

Required erosion control measures shall be as specified in the VDOT Road and Bridge Specifications and Virginia Erosion and Sediment Control Handbook, Latest Edition.

## PART 3 - EXECUTION

### 3.01 SITE CLEARING:

3.01.1 General: Remove trees, grass and other vegetation, improvements, or obstructions interfering with installation of new construction in accordance with VDOT Specifications Section 301. Remove such items elsewhere on site as specifically indicated on the plans. Only remove those items necessary to perform the work. Install any necessary erosion control measures prior to any land disturbing activity.

3.01.2 Topsoil: Topsoil is defined as friable clay loam surface soil found in a depth of not less than 4 inches. Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones, and other objects over 1 inch in diameter, and without weeds, roots, and other objectionable material. Remove heavy growths of grass from areas before stripping. Strip and stockpile topsoil in accordance with VDOT Specifications Section 303.04.a

Strip topsoil to whatever depths encountered in a manner to prevent intermingling with underlying subsoil or other objectionable material.

Stockpile topsoil in storage piles in such a manner as to freely drain surface water. Cover storage piles if required to prevent wind-blown dust, and seed excess topsoil storage piles in accordance with temporary seeding requirements. Provide perimeter silt fencing around stockpile area to prevent silt from leaving stockpile area site. **Only stockpile that topsoil necessary to provide for final grassed surfaces. Waste excess topsoil off-site or use to flatten fill slopes as directed by the Engineer.**

3.01.3 Clearing and Grubbing: Clear site of trees, shrubs and other vegetation, except for those indicated to be left standing, in accordance with Section 301 of the VDOT specifications. Completely remove stumps, roots, and other debris protruding through ground surface that will be less than 5 ft. below the top of earthwork.

Use only hand methods for grubbing inside drip line of trees to be left standing. Hand cut interfering roots of all trees indicated to remain. Protect existing root systems from damage or dryout to the greatest extent possible. Maintain moist condition for root system and cover exposed roots with burlap. Paint root cuts of 1 in. diameter and larger with emulsified asphalt tree paint.

3.01.4 Removal of Improvements: Remove existing above- and below-grade improvements necessary to permit construction, and other work as indicated.

3.01.5 Backfilling of Depressions: Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation or earthwork is indicated. Place fill material in horizontal layers not exceeding 6 in. loose depth, and thoroughly compact to a density equal to adjacent original ground.

### 3.02 DISPOSAL OF EXCESS AND WASTE MATERIALS:

3.02.1 Burning On Site: On-site burning of existing trees, shrubs and other vegetation in the project area will not be allowed on this project.

- 3.02.2 Removal from Site: Remove all waste materials, trash, and debris from the road right of way and dispose of it off site in accordance with Section 106.04 of the VDOT Specifications.
- 3.02.3 Disposal on Site: No on-site disposal areas are available on this project.

END OF SECTION 02100

## SECTION 02170 - EROSION AND SEDIMENT CONTROL

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplemental Conditions and other Specification sections, apply to work of this section.

Virginia Department of Transportation (VDOT) Road and Bridge Specifications, Road and Bridge Standards and Work Area Protection Manual, all latest edition.

ACSA Design and Construction Standards, latest edition.

Virginia Erosion and Sediment Control Handbook, latest edition.

#### 1.02 DESCRIPTION OF WORK:

The Contractor shall furnish all labor, materials, equipment and services necessary for, and reasonably incidental to, preventing pollution of land, air and water and for controlling stormwater runoff and erosion of soil. Erosion and sediment control shall be accomplished so as to preclude sedimentation of existing and proposed drainage ways.

#### 1.03 GENERAL CONTROL MEASURES:

- 1.03.1 All disturbed areas shall be permanently seeded or sodded within 30 days from disturbance unless the Owner grants an exception. Areas which are excepted from permanent vegetation shall be temporarily seeded within 7 days at the Contractor's expense.
- 1.03.2 All disturbed areas shall be protected to control erosion and prevent sedimentation of adjacent properties, VDOT right of way, streams and or drainage ways.
- 1.03.3 Sediment control devices such as diversion berms, sediment traps, filter barriers, vegetation stabilization, etc., shall be used to prevent off-site sedimentation at all times.
- 1.03.4 Topsoil, borrow or waste materials shall be temporarily stockpiled only within the project limits.
- 1.03.5 The proposed grading shall not impair existing surface drainage, constitute a potential erosion hazard, or source of sedimentation to any adjacent property, drainage system or right-of-way.
- 1.03.6 All points of construction ingress and egress shall be protected to prevent tracking of mud on the public streets.

#### 1.04 STORM DRAINAGE CONTROL:

If during construction the Contractor disrupts existing storm drainage patterns, the storm drainage will be handled by providing positive drainage onto stable areas at nonerosive velocities and in a manner consistent with established drainage ways.

#### 1.05 STABILIZATION:

- 1.05.1 Within seven days of achieving final grade, all disturbed areas shall be stabilized with permanent vegetation and mulch.
- 1.05.2 For vegetating critical areas, sod or adequate mulch, fertilizer and type of seed will be placed to ensure a vigorous groundcover and such application will be repeated if necessary until such growth is established.
- 1.05.3 Erosion and sediment control measures may not be removed or relocated without the prior approval of the Engineer.

## PART 2 - PRODUCTS

- 2.01 GROUND LIMESTONE - see Section 02930 - Lawns & Grasses
- 2.02 COMMERCIAL FERTILIZER - see Section 02930 - Lawns & Grasses
- 2.03 WATER - shall be clean potable water.
- 2.04 SEED - see Section 02930 - Lawns & Grasses
- 2.05 MULCH - see Section 02930 - Lawns & Grasses
- 2.06 MULCH BINDERS - see Section 02930 - Lawns & Grasses
- 2.07 OMITTED
- 2.08.1 EROSION CONTROL STONE (EC-1) AND RIPRAP TYPE I - shall be dry riprap in accordance with VDOT Road and Bridge Specifications, latest edition.
- 2.08.2 CONSTRUCTION ENTRANCE – Constructed to Standard & Specification 3.02 of the Virginia Erosion & Sediment Control Handbook, latest edition.
- 2.08.3 SILT FENCES Constructed to Standard & Specification 3.05 of the Virginia Erosion & Sediment Control Handbook, latest edition.
- 2.08.4 STORMWATER CONVEYANCE CHANNEL - Constructed to Standard & Specification 3.17 of the Virginia Erosion & Sediment Control Handbook, latest edition.
- 2.08.5 OUTLET PROTECTION - Constructed to Standard & Specification 3.18 of the Virginia Erosion & Sediment Control Handbook, latest edition.
- 2.08.6 ROCK CHECK DAMS - Constructed to Standard & Specification 3.20 of the Virginia Erosion & Sediment Control Handbook, latest edition.
- 2.08.7 SURFACE ROUGHENING - Constructed to Standard & Specification 3.29 of the Virginia Erosion & Sediment Control Handbook, latest edition.
- 2.08.8 TOPSOILING - Constructed to Standard & Specification 3.30 of the Virginia Erosion & Sediment Control Handbook, latest edition.
- 2.08.9 SOIL STABILIZATION BLANKETS AND MATTING - Constructed to Standard & Specification 3.36 of the Virginia Erosion & Sediment Control Handbook, latest edition.

## PART 3 - EXECUTION

- 3.01 CONSTRUCTION ENTRANCE, SILT FENCE, DIVERSIONS AND SEDIMENT BASINS



The construction entrances, silt fences, diversions, and sediment trap shall be established prior to any land disturbing operation as a first priority item. Contractor will schedule a pre-construction conference with County ESC administrator after installation of these perimeter ESC items

All ESC items shall be placed and maintained in strict accordance with the latest edition of the Virginia Erosion Control and Sediment Control Handbook to ensure effective use.

- 3.02 LIME - see Section 02930 - Lawns & Grasses
- 3.03 FERTILIZER - see Section 02930 - Lawns & Grasses
- 3.04 SEEDING - see Section 02930 - Lawns & Grasses
- 3.05 MULCHING - see Section 02930 - Lawns & Grasses
- 3.06 MULCH BINDING - see Section 02930 - Lawns & Grasses
- 3.07 GENERAL CONTROL MEASURES

The work site, and areas adjacent thereto, shall be kept clean and free of soil, straw or other materials incidental to the work of this section. Surface drainage from cuts and fills within the construction limits, and from borrow and waste disposal areas, shall, if turbidity producing materials are present, be held in suitable sedimentation ponds or traps or shall be graded to control erosion.

Temporary erosion and sediment control measures such as berms, dikes, drains, or sedimentation basins, if required to meet the above standards, shall be provided and maintained until permanent drainage and erosion control facilities are completed and operative. The area of bare soil exposed at any one time shall be held to a minimum. Fills and waste areas shall be constructed by a selective placement to eliminate silts or clays on the surface that will erode and contaminate adjacent properties, streams or drainage ways.

### 3.08 STOCKPILING EXCAVATED MATERIAL

Contractor shall temporarily stockpile excavated material and waste materials in such a way as to minimize sedimentation. Performing this effective control measure will minimize the need for straw bales and silt fences. Disturbance shall be kept to a minimum and methods of controlling erosion shall be performed in accordance with plans and specifications and Contractor is not relieved of his responsibility to perform construction practices which will prevent erosion more clearly defined in the Virginia Erosion and Sediment Control Handbook.

### 3.09 MAINTENANCE

The Contractor shall maintain erosion control measures until permanent vegetation is established and shall not be removed until so directed by the Engineer. During periods of operation, erosion control facilities shall be maintained in proper condition and silt removed as described in the Virginia Erosion and Sediment Control Handbook or as directed by Engineer. Removal of erosion control facilities shall include proper disposal of all collected silt and debris.

**IMPROPER INSTALLATION OR MAINTENANCE OF EROSION CONTROL MEASURES SHALL BE SUFFICIENT GROUNDS FOR THE OWNER TO STOP WORK ON THE PROJECT.**

END OF SECTION 02170

## SECTION 02200 - EARTHWORK

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplemental Conditions and other Specification sections, apply to work of this section.

Virginia Department of Transportation (VDOT) Road and Bridge Specifications, Road and Bridge Standards and Work Area Protection Manual, all latest edition.

ACSA Design and Construction Standards, latest edition.

Virginia Erosion and Sediment Control Handbook, latest edition.

1.02 DESCRIPTION OF WORK:

Work under this section includes, but is not limited to:

Preparation of subgrade and subbase materials for roadway pavements, shoulders, ditches and drainage facilities; and spreading of topsoil for all areas to be seeded as specified in the drawings.

1.02.1 **Definitions:** "Excavation" consists of removal and placement of material to required trench bottom, subgrade and or subsoil elevations indicated, and the subsequent disposal of materials removed. "Subgrade" is defined as the undisturbed earth, or the compacted soil layer, immediately below the finished pad elevations, drainage fill, or topsoil materials. "Subsoil" is defined as the undisturbed earth immediately below the existing topsoil layer.

1.03 QUALITY ASSURANCE:

1.03.1 Codes and Standards: Perform excavation and embankment work in compliance with VDOT Specifications unless otherwise modified herein.

1.03.2 Testing and Inspection: The Contractor shall hire an independent Geotechnical Engineer acceptable to the Owner to perform soil testing and quality control inspection services during earthwork operations.

1.04 JOB CONDITIONS:

1.04.1 **Suitability of Materials:** The Contractor shall be responsible for the disposal of excess material (including but not limited to undercut, root mat and excess topsoil and fill material), obtaining borrow material and the suitability of all on-site material above subgrade. No extra payment will be made, regardless of the suitability or unsuitability of on-site soils for the disposal or importing of soils to the project site.

1.04.2 Site Drainage: Control of surface drainage and groundwater is critical because of the moisture sensitivity of on-site soils. The Contractor shall be required to provide adequate and positive site drainage throughout construction. Any subgrade soils which have been weakened due to inadequate drainage, saturation and or disturbance shall be undercut and replaced with compacted structural fill at no additional cost to the Owner.

1.04.3 Existing Utilities: Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations. Provide minimum of 48-hour notice to the Engineer, and receive written notice to proceed before interrupting any utility.

Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Engineer and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.

1.04.4 Protection of Persons and Property: Work within existing roadways shall meet all requirements of VDOT's Work Area Protection Manual. Access to adjoining properties must be maintained at all times. Barricade open excavations occurring as part of this work and post with warning lights.

Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

## PART 2 - PRODUCTS

### 2.01 SOIL MATERIALS:

- 2.01.1 Satisfactory Soil Materials are defined as on-site soils complying with ASTM D2487 soil classification groups CL, ML, SC, SM, SP, SW, GC, GM, GP, GW, MH or CH. If any CH or MH materials to be used as fill, such use shall be permitted only if approved by the Owner's Geotechnical Engineer, and they should be blended with more granular or less plastic material (CL, ML, SC, SM, SP, SW, GC, GM, GP, GW) and/or placed in the lower portions of the fills. Borrow material from off-site sources shall classify CL or better, shall have a minimum CBR value of 6 in accordance with VDOT VTM-8 and must be approved by the Engineer prior to placement.
- 2.01.2 Unsatisfactory Soil Materials are defined as those complying with ASTM D2487 soil classification groups OL, OH, and PT.
- 2.01.3 Subbase Material: Shall consist of VDOT Size 21-A and 21-B, Type I dense graded aggregate meeting requirements of VDOT Specification Section 208 and others relevant to the proposed work.
- 2.01.4 Backfill and Fill Materials: Satisfactory soil materials free of clay, rock or gravel larger than 2 in. in any dimension, organic matter, clearing debris, waste, frozen materials, and other deleterious matter, and meeting the requirements of Section 2.01.1.
- 2.01.5 Topsoil as defined in Section 02100.

## PART 3 - EXECUTION

### 3.01 EXCAVATION:

- 3.01.1 Excavation is Unclassified, and includes excavation to subgrade elevations indicated, **regardless of character of materials and obstructions encountered.**
- 3.01.2 Unauthorized Excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of the Engineer. Unauthorized excavation, as well as remedial work directed by the Engineer, shall be at the Contractor's expense. Backfill and compact unauthorized excavations in the same manner as specified for authorized excavations of same classification, unless otherwise directed by the Engineer.
- 3.01.3 Undercut Excavation: When excavation has reached required sub-grade elevations, notify the Engineer who will make an inspection of conditions. If unsuitable bearing material is encountered at required subgrade elevations, carry excavations deeper as directed by the Engineer.
- 3.01.4 **The Contractor shall include in his Lump Sum Bid an allowance for the removal, disposal and replacement of a total of 300 CY of unsuitable material from below the subgrade of the proposed roads. If the undercut required in this locations is greater (or less) than that included in the allowance, the contract price shall be adjusted up (or down) based on the unit prices as described below.**

The limits and depth of undercut shall be as directed by the Engineer and adjustments to the Lump Sum contract price shall be made where appropriate. Measurement and basis for any additional payment (or credit as the case may be) shall be made based on the unit prices included in the contract for Excess Excavation (off-site disposal), Base Mix Asphalt, VDOT #3 Stone, VDOT #57 Stone, Geotextile Fabric and or other items as may be appropriate.

Undercut required for the installation of pipe culverts and bedding materials shall not be classified as undercut excavation and shall be included in the unit price of the pipe.

- 3.01.5 Stability of Excavations: Slope sides of excavations to comply with Virginia OSHA for the construction industry by the Department of Labor and Industry. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

- 3.01.6 Dewatering: Prevent surface water and subsurface or groundwater from flowing into excavations and from flooding project site and surrounding area. Maintain positive drainage away from the construction area at all times.

Do not allow water to accumulate in excavations. Remove water to prevent soil changes detrimental to stability of subgrade. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations. Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey stormwater and water removed from excavations to collecting or run-off areas. Do not use trench excavations as temporary drainage ditches.

- 3.01.7 Material Storage: Stockpile satisfactory excavated materials on site in a location as generally shown on the plans until required for backfill or fill. Alternate locations may be approved by the Engineer with appropriate Erosion & Sediment Control measures. Place, grade and shape stockpiles for proper drainage. Locate and retain soil materials away from edge of excavations. Do not store within drip line of trees indicated to remain.

- 3.01.8 Excavation for Pavements: Cut surface under proposed pavements to comply with cross-sections, elevations and grades as shown on the contract plans and in accordance with VDOT Specifications.

- 3.01.9 Cold Weather Protection: Protect excavation bottoms against freezing when atmospheric temperature is less than 35°F (1°C).

### 3.02 BACKFILL AND FILL:

- 3.02.1 General: Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below.

In excavations, use satisfactory excavated or borrow material.

Topsoil use satisfactory topsoil and place in a minimum depth as stated in on the contract drawings for all areas to be seeded or landscaped.

Under grassed areas, use satisfactory excavated or borrow material.

Under curb and pavements, use subbase material.

3.02.2 Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil materials, and deleterious materials from ground surface prior to placement of fills in accordance with Section 02100 and as described herein. Existing slopes shall be continuously benched where embankments are constructed one-half width at a time; against slopes of existing embankments or hillsides; or across existing embankments, hillsides, and depressions at a skew angle of 30 degrees or more or the existing slopes are steeper than 4:1. For slopes steeper than 4:1 but not steeper than 1-1/2:1, the bench shall be at least 6 feet in width. For slopes steeper than 1-1/2:1 but less than 1/2:1, the bench shall be at least 4 feet in width. Benching shall consist of a series of horizontal cuts beginning at the intersection with the original ground and continuing at each vertical intersection of the previous cut. Material removed during benching operations shall be placed and compacted as embankment material.

When existing ground surface has a density less than that specified under "Compaction" for particular area classification, break up the top 1 ft. of subgrade, pulverize, moisture-condition to optimum moisture content ( $\pm 3\%$ ), and compact to the required percentage of maximum density, unless otherwise directed by the Engineer.

- 3.02.3 Fill Placement: Place backfill and fill materials in layers not more than 8 in. loose depth for material compacted by heavy compaction equipment, and not more than 4 in. in loose depth for material compacted by hand-operated tampers.

Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content ( $\pm 3\%$ ). Compact each layer to required percentage of maximum dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

Place backfill and fill materials evenly adjacent to structures, piping or conduit to required elevations. Take care to prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping or conduit to approximately same elevation in each lift.

3.03 GRADING:

- 3.03.1 General: Grading operations shall comply with VDOT Specifications, Section 303. Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances (VDOT Specifications, Section 303.05), compact with uniform levels or slopes between points where elevations are indicated, or between such points and existing grades.

Construction activities shall be planned to maintain positive drainage away from the construction area throughout grading operations.

3.04 COMPACTION:

- 3.04.1 General: Compact soil in accordance with VDOT Specifications, Section 303.04.

The density of the structural compact fill and scarified subgrade shall not be less than ninety five percent (95%) of the maximum dry density as determined by Standard Proctor Method (ASTM D-698).

- 3.04.2 Moisture Control: Where subgrade must be moisture-conditioned before compaction, uniformly apply water to surface of subgrade or layer of soil material to prevent free water appearing on surface during or subsequent to compaction.

Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to satisfactory value.

3.05 FIELD QUALITY CONTROL:

- 3.05.1 Quality Control Testing during Construction: Allow Engineer to inspect and approve subgrade and fill layers before further construction work is performed. Field density determinations shall be performed by the Owner's Geotechnical Engineer in accordance with VDOT Specification Sections 303, 304 and other approved methods as required.

If in opinion of the Engineer, based on testing service reports and inspection, subgrade or fills which have been placed are below specified density, provide additional compaction at no additional expense.

3.06 MAINTENANCE:

- 3.06.1 Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

- 3.06.2 Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

- 3.06.3 Settling: Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.08 DISPOSAL OF EXCESS AND WASTE MATERIALS:

- 3.08.1 Removal from Right-of-Way: Remove waste, trash, and debris, and dispose of it in a legal manner off site. Excess topsoil, rootmat and other unsuitable soil materials shall be disposed of off site unless otherwise directed by the Engineer.

END OF SECTION 02200

## **SECTION 02510 - ASPHALT CONCRETE PAVING**

### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS:**

Drawings and general provisions of Contract, including General and Supplemental Conditions and other Specification sections, apply to work of this section.

Virginia Department of Transportation (VDOT) Road and Bridge Specifications, Road and Bridge Standards and Work Area Protection Manual, all latest edition.

ACSA Design and Construction Standards, latest edition.

#### **1.02 DESCRIPTION OF WORK:**

Extent of asphalt concrete paving work is shown on drawings.

#### **1.03 SUBMITTALS:**

1.03.1 Material Certificates: Provide copies of materials certificates signed by material producer and Contractor, certifying that each material item complies with, or exceeds, specified requirements.

1.03.2 Maintenance and Protection of Traffic: The Contractor shall submit a plan indicating proposed sequencing and measures to be used for the maintenance and protection of traffic during operations within or immediately adjacent to existing roadways open to vehicular traffic. This plan shall be reviewed by the Engineer and must be approved prior to the commencement of said operations.

Utilize flagmen, barricades, warning signs and warning lights as required by Virginia Work Area Protection Manual.

#### **1.04 QUALITY ASSURANCE:**

1.04.1 Codes and Standards: Comply with Virginia Department of Transportation Road and Bridge Specifications, latest edition.

1.04.2 Testing and Inspection: The Contractor shall hire an independent testing agency acceptable to the Owner to perform asphalt testing and quality control inspection services during paving operations.

#### **1.05 SITE CONDITIONS:**

1.05.1 Weather Limitations: Apply overlay tack coats when ambient temperature is above 50°F (10°C), and when temperature has not been below 35° F (1° C) for 12 hours immediately prior to application. Do not apply when base is wet or contains an excess of moisture.

Construct asphalt concrete surface course when atmospheric temperature is above 40°F (4°C), and when base is dry. Base course may be placed when air temperature is above 30°F (-1°C) and rising.

1.05.2 Grade Control: Establish and maintain required lines and elevations.

## PART 2 - PRODUCTS

### 2.01 MATERIALS:

- 2.01.1 General: Use locally available materials and gradations that exhibit a satisfactory record of previous installations. All aggregate, asphalt and other associated materials shall meet the requirements of Division II of the VDOT Specifications, for the work shown on the contract drawings.
- 2.01.2 Asphalt-Aggregate Mixture: Provide plant-mixed, hot-laid asphalt-aggregate mixture complying with Section 211 of the VDOT Specifications for the type mix specified. Plant-mixed asphaltic concrete shall be VDOT Types SM-12.5A, or as indicated on the contract drawings.

## PART 3 - EXECUTION

### 3.01 SURFACE PREPARATION:

Under the supervision of the Project inspector, proof roll prepared subgrade surface to check for unstable areas and areas requiring additional compaction. Do not begin paving work until deficient subgrade areas have been corrected and are ready to receive paving.

- 3.02.1 Tack Coat: Apply to contact surfaces of previously constructed asphalt surfaces abutting or projecting into asphalt concrete pavement. Distribute at rate of .05 to .10 gallons per square yard of surfaces as described under Section 310 of the VDOT Specifications.

Exercise care in applying bituminous materials to avoid smearing of adjoining surfaces, structures and trees. Remove and clean damaged surfaces.

### 3.02 PLACING MIX:

Work shall be performed in accordance with Section 315 of the VDOT Specifications. All pavement courses shall be the minimum compacted thickness as shown on the plans.

### 3.03 FIELD QUALITY CONTROL:

- 3.03.1 General: In-place asphalt concrete courses will be tested by the Contractor for compliance with requirements for thickness and surface smoothness. Repair or remove and replace unacceptable paving as directed by the Engineer.
- 3.03.2 Pavement Tolerances: In-place compacted thickness and smoothness will not be acceptable if exceeding the tolerances indicated in Section 315.07 of the VDOT Specifications.

END OF SECTION 02510

## **SECTION 704 – PAVEMENT MARKINGS AND MARKERS**

### **704.01 – Description**

This work shall consist of establishing the location of retroreflective pavement markings and installing pavement markings and pavement markers in accordance with the *MUTCD*, the Contract, and as directed by the Engineer.

### **704.02 – Materials**

- (a) **Pavement Markings** shall conform to Section 246.
- (b) **Glass Beads** and retroreflective optics materials shall conform to Section 234.
- (c) **Pavement Markers** shall conform to Section 235.

(d) **Contrast Pavement Markings** shall conform to Section 246.

All pavement marking materials shall be selected from the Materials Division's Approved Products List 17. For Type B, Class VI pavement marking materials that are to be applied to latex emulsion or slurry seal surfaces. The selected Type B, Class VI manufacturer shall be a manufacturer that approves and warrants their product for application on that type of surface.

The Contractor shall use a Department approved inventory tracking system for all materials received from the manufacturer. Shipment of materials from such inventory shall be accompanied by a signed Form C-85 containing the following certification statement:

*Material shipped under this certification has been tested and approved by VDOT as indicated by laboratory test numbers (MS#) listed hereon.*

### **704.03 – Procedures**

Once received by the Contractor, the Contractor shall store all materials in accordance with the manufacturer's instructions until the day of installation, unless the Engineer otherwise authorizes. Pavement marking material shall not be installed if the material has exceeded its shelf life, has been improperly stored, has deteriorated or is otherwise damaged. The Contractor shall furnish a copy of the manufacturer's installation instructions to the Engineer prior to installation.

The Contractor shall have a certified Pavement Marking Technician present during all temporary pavement marking, permanent pavement marking, and pavement marker operations.

All pavement markings and markers shall be installed on new roadways prior to opening the roadways to traffic. Temporary or permanent pavement marking installation, including edge lines and message markings, shall be completed within the time limits stated herein on existing roadways where the pavement markings have been removed or obscured and the roadway is to be reopened to traffic, unless otherwise directed by the Engineer. The Engineer will only authorize exceptions to these time limits for weather conditions preventing installation, when pavement surface conditions required by the manufacturer or these specifications such as cooling, curing, or aging limit application prior to the installation of permanent markings, or when Type B, Class VI marking material is to be inlaid into the freshly paved asphalt concrete roadway surface. Epoxy resin and polyurea pavement markings shall be installed on new pavement in accordance with the manufacturers' instructions. Pavement markings shall not be installed on new asphalt concrete pavement until the pavement mat has cooled sufficiently to support the pavement marking equipment without deformation. Time limits for installation are as follow:

- Pavement marking installation on interstates, other freeways (fully limited-access, divided roadway with two or more lanes per direction) with posted speed limit of 55 mph or greater, and interstate/freeway ramps, where the corresponding pavement markings were removed, eradicated, or obscured shall be completed prior to opening the lane to traffic.
- Pavement marking installation on non-freeway roads having traffic volumes of 10,000 ADT or more shall be completed within 24 hours after the end of the workday when the corresponding existing pavement markings were removed, eradicated, or obscured.
- Pavement marking installation on non-freeway roads having traffic volumes between 3,000 and 10,000 ADT shall be completed within 48 hours after the end of the workday when the corresponding existing pavement markings were removed, eradicated, or obscured.
- Pavement marking installation on non-freeway roads having traffic volumes of less than 3,000 ADT shall be completed within 72 hours after the end of the workday when the corresponding existing pavement markings were removed or obscured.

If an approach to a signalized intersection has (a) two or more approach through lanes, (b) 45 mph or greater speed limit, (c) greater than 3000 ADT, and (d) all markings on that approach are obliterated, then all lane lines and centerlines within 250 feet of the stop line location shall be temporarily or



permanently marked within 24 hours of opening the approach to traffic, unless a time extension is approved by the Engineer and "Unmarked Pavement Ahead" or "No Center Line" warning signs were properly installed when the unmarked approach was first opened to traffic as per the VWAPM.

- Temporary symbol/message markings and temporary edge lines, if required by the Contract, shall be marked within 72 hours after the end of the work day when the corresponding existing markings were obscured, removed, or eradicated on roads with 10,000 or greater ADT, and shall be marked within 96 hours after the end of the work day when the corresponding existing markings were obscured, removed, or eradicated on roads with less than 10,000 ADT.

If the Contractor cannot have permanent pavement markings installed within the time limits specified, the Contractor shall install temporary pavement markings within the same time limits and maintain such markings until the permanent pavement markings can be installed. The cost of installing, maintaining, and removing/eradicating temporary pavement markings shall be at no additional cost to the Department unless otherwise indicated in the Contract or directed by the Engineer.

The Contractor may mark the locations of proposed permanent markings on the roadway by installing premarking materials. Premarkings may be accomplished by installing Type D (removable, any class) tape, chalk, or lumber crayons, except pavement markings such as stop lines, crosswalks, messages, hatching, etc., shall be premarked using chalk or lumber crayons. Premarkings shall be of the same general color as the pavement markings being premarked.

When tape is used as a premarking material, premarking shall consist of 4- inch by 4-inch-maximum squares or 4-inch-maximum diameter circles spaced at 100-foot minimum intervals in tangent sections and 50-foot minimum intervals in curved sections. At locations where the pavement marking will switch colors, e.g., gore marking, the ends of the markings may be premarked regardless of the spacing.

When the Contractor uses chalk or lumber crayon as a premarking, the entire length of the proposed pavement marking may be premarked.

Premarkings shall be installed so their installation will not affect the adhesion of the permanent pavement markings. When Type D tape is used as the premarking material and the lateral location of such premarkings to location of the final pavement markings exceeds 6 inches, the Type D premarkings shall be removed at no additional cost to the Department.

Permanent pavement markings shall not be installed over temporary paint if the paint exceeds the maximum allowable specified thickness in Table VII-3 or is not fully dry. If the temporary paint is not located directly underneath the location where the permanent markings are to be installed, it shall be 100% eradicated prior to installation of the permanent markings at no additional cost to the Department.

The Contractor shall exercise caution and protect the public from damage while performing pavement marking operations. The Contractor shall be responsible for the complete preparation of the pavement surface, including, but not limited to, removing dust, dirt, loose particles, oily residues, curing compounds, concrete laitance, residues from eradication, and other foreign matter immediately prior to installing pavement markings. The pavement surface shall be clean and dry at the time of pavement marking installation and shall be tested in accordance with VTM-94 prior to permanent installation. The Contractor shall provide the apparatus indicated in VTM-94 that are needed to perform the moisture test prior to application.

Liquid markings shall be applied so as to prevent splattering and overspray and shall be protected from traffic until track free by the use of traffic control guarding or warning devices as necessary. If a vehicle crosses a pavement marking and tracks it or if splattering or overspray occurs, the affected marking and resultant tracking, overspray, or splattering shall be completely removed and new markings applied at the Contractor's expense.

Truck-mounted equipment for application of liquid long line Type B markings shall be capable of hot applying liquid and/or plastic markings and broadcasting glass beads uniformly over the entire surface of the marking. Truck mounted equipment tanks shall be equipped with a mechanical agitator to keep the

pavement marking materials thoroughly mixed at all times. Materials shall be blended, heated, and applied in accordance with the manufacturer's installation instructions. Markings shall be applied in widths of 4 through 8 inches in accordance with the the Plans and Specifications. Equipment shall be capable of applying two pavement lines, either solid or skip, at the same time when double line markings are required.

Non-truck mounted equipment shall be self-propelled and regulated to allow for calibration of the amount and type of material applied.

The Contractor shall be responsible for ensuring that equipment is thoroughly cleaned between changes in colors or types of materials.

Markings shall not be installed directly over longitudinal pavement joints, except to cross the joint perpendicularly or at an angle.

Pavement markings shall have clean and well-defined edges without running, bleeding or deformation. Markings shall be uniform in appearance, free of waviness; (waviness is defined as the edge of the marking shall not vary from a straight line more than 1/4 inch in three feet or more than one inch in fifty feet for a maximum distance of 500 feet); shall be straight on tangent alignment; and shall be on a true arc on curved alignment.

The widths of pavement markings shall not deviate more than 1/4 inch on tangent nor more than 1/2 inch on curves from the required width. The length of the gap and the length of the individual stripes that form skip lines shall not deviate more than two inches from their required lengths. The length of the gap and individual skip line shall be of such uniformity throughout the entire length of each that a normal striping machine shall be able to repeat the pattern and superimpose additional striping upon the existing marking.

Glass beads and retroreflective optics shall be applied at the rate specified herein or as specified in the Materials Division's Approved Products List for the specific pavement marking product. Beads and optics shall be evenly distributed over the entire surface of the marking. The Contractor shall apply beads to the surface of liquid markings with a bead dispenser attached to the applicator that shall uniformly dispense beads simultaneously on and into the just-applied marking. The bead dispenser shall be equipped with a cut-off control synchronized with the applied marking material cut off control so that the beads are applied totally on the marking. Beads shall be applied while the liquid marking is still fluid. Approximately seventy (70) percent of beads shall be buried in the marking, and the remaining 30 percent shall be 50 to 60 percent embedded in the marking's surface unless otherwise specified by the pavement marking manufacturer. Beads installed on crosswalks and stop lines on roadways with curbs only (no gutter) may be hand applied for two feet at the end of each line next to the curb with 100 percent of the beads embedded 50 to 60 percent into the marking's surface.

The Engineer will make a visual evaluation of the pavement marking material to assess the condition, retroreflectivity, and color after its installation and again prior to final acceptance. The Department, the Contractor, and the marking manufacturer's representative will make a further inspection if problem areas are suspected to identify specific areas of concern. If required by the Engineer, the suspect areas shall be tested by the Contractor in the presence of the Engineer in accordance with VTM-125 to define the evaluation sections and the number of measurements needed. Acceptable test results shall meet the retroreflectivity and color requirements specified in Section 246. Markings that do not meet the requirements for retroreflectivity and day and nighttime color specified in Section 246 shall be eradicated and replaced by the Contractor at no cost to the Department. Pavement markings that exhibit signs of significant tearing, deformation, shrinkage, roll back, lifting, or other signs of poor adhesion shall also be replaced by the Contractor at no cost to the Department.

All costs associated with testing the marking material for retroreflectivity, color, and adhesion shall be borne by the Contractor. The Contractor will be paid for maintenance of traffic during this testing at the contract unit price for the maintenance of traffic items used.

Pavement marking manufacturer's material guarantees shall be obtained by the Contractor and assigned to the Department in writing prior to final acceptance.

- (a) **Pavement Line Markings:** Pavement markings shall be white or yellow markings (unless another color is specified in the Contract) as required by the *MUTCD* and plans for the specific location or as specified by the Engineer. Line markings shall be installed in accordance with Table VII-3 unless otherwise recommended by the manufacturer and approved by the Engineer. The Contractor shall furnish a copy of the manufacturer's installation instructions for the specific marking to the Engineer prior to installation.

The Contractor shall perform quality control testing for application thickness and glass bead rate in accordance with VTM-94 at the beginning of each workday and every 3 hours thereafter. The Contractor shall provide the apparatuses needed to perform the quality control testing in accordance with VTM-94. Compliance testing using VTM-94 shall be performed in the presence of the Engineer and shall be documented on the Pavement Marking, Contractor's Daily Log and Quality Control Report, Form C-85, immediately after testing is completed. If requested by the Engineer, the Contractor shall provide a quality control (QC) test plate and the provision of the test plate shall be documented on the Form C-85. The Contractor shall also provide a printed or electronic copy of the signed Form C-85 to the Materials Division Quality Assurance Technician for materials notebook evaluation.

The Contractor shall maintain a daily log, Form C-85, for both temporary and permanent pavement markings and markers. The C-85 form shall not be modified; all log entries shall be made in ink; and shall be legible. The log shall be signed by the Contractor and delivered to the Engineer by the end of each workday. If the C-85 is in electronic format, it shall be kept current with VTM-94 testing throughout the day and a printed copy, signed by the Contractor, shall be delivered to the Engineer at the end of each workday.

Pavement line markings shall consist of solid and skip lines, including but not limited to, lane division lines, edgelines, channelizing, outlining and marking safety zones around objects, and forming islands and parking lot stalls.

1. **Type A markings** shall be applied to asphalt concrete and hydraulic cement concrete pavements in accordance with the manufacturer's installation instructions. Paint shall not be applied over existing pavement markings of other materials unless the existing marking is 90 percent worn away or eradicated. Paint may be applied over existing painted markings if the existing paint is clean and well adhered.

Paint shall be thoroughly mixed and heated such that it will not track within 60 seconds after its application.

Glass beads and retroreflective optics shall be applied to the entire surface of the marking at the minimum rate of 6 pounds per gallon of paint, unless specified otherwise in the Materials Division's Approved Products List 20 for the selected pavement marking product.

2. **Type B markings** shall be applied in accordance with the manufacturers' installation instructions.

The Contractor shall furnish a properly calibrated infrared instrument to measure the actual temperature of molten thermoplastic material. Multi-component material shall be applied using internally injected guns for the proper mixing of components.

Non-truck mounted equipment for application of thermoplastic material shall be of the screed extrude type with a screw drive.

- a. **Thermoplastic (Class I)** material shall be applied by screed extrusion, ribbon gun, or spray equipment in accordance with the manufacturer's installation instructions. A primer/adhesive manufactured or recommended by the thermoplastic marking manufacturer shall be applied to hydraulic cement concrete surfaces and to asphalt concrete surfaces in accordance with the manufacturer's installation instructions.

Alkyd thermoplastic may be applied directly after the paving operations if the paved surface can support the equipment. Hydrocarbon thermoplastic shall not be applied to asphalt surfaces

less than 30 days after paving operations are complete, hydrocarbon thermoplastic may be applied to hydraulic cement concrete surfaces as soon as permitted by the manufacturer's instructions.

Alkyd and hydrocarbon materials shall not be mixed together.

Thermoplastic shall not be applied over existing pavement markings of other materials unless the existing marking is 90 percent worn away or eradicated; or over previously applied temporary paint that is fully dry and is at a thickness of 10 mils or less. Thermoplastic shall only be applied over existing thermoplastic markings, if the existing thermoplastic markings are clean, chalk free (not powdery), and well adhered.

Thermoplastic marking material shall be applied at thickness of 90 mils ( $\pm$  5 mils) above the riding surface, whether dense or open graded surface.

Glass beads and retroreflective optics shall be surface applied at the rate of 7 pounds per 100 square feet unless specified otherwise on the Materials Division's Approved Products List 43 for the specific thermoplastic product.

- b. **Preformed thermoplastic (Class II)** material shall be installed as lines, stop bars, message markings, legends, and symbols in accordance with the manufacturer's installation instructions. A primer/sealer manufactured by or recommended by the preformed thermoplastic manufacturer shall be applied to all hydraulic cement concrete surfaces and to asphalt concrete surfaces in accordance with the manufacturer's installation instructions.

Preformed thermoplastic shall not be applied over existing pavement markings of other materials unless the existing marking is 90 percent worn away or eradicated; or over previously applied temporary paint that is fully dry and is at a thickness of 10 mils or less. Preformed thermoplastic may be applied over existing thermoplastic markings, provided the the existing thermoplastic marking is clean, chalk free (not powdery), and well adhered.

Preformed thermoplastic shall be 125 mils thick ( $\pm$  5 mils) unless otherwise approved by the Engineer.

Additional glass beads and retroreflective optics shall be evenly applied at a rate of 7 pounds per 100 square feet (unless another rate is specified in the Materials Division's Approved Products List 73 for the selected pavement marking product) to flood the entire surface immediately after installation while the material is molten.

- c. **Epoxy resin (Class III)** material shall be applied in accordance with the manufacturer's installation instructions and shall not be applied over existing pavement markings unless the existing marking is 90 percent worn away or eradicated. Epoxy marking material shall be applied at a wet film thickness of 20 mils ( $\pm$  1 mil).

Glass beads and retroreflective optics shall be applied to the surface of the marking at the rate of 25 pounds per gallon of material, unless otherwise specified in the Materials Division's Approved Products List 75 for the specific epoxy resin product.

- d. **Plastic-backed preformed tape (Class IV)** shall be installed in accordance with the manufacturer's installation instructions. Tape may be applied to asphalt concrete and hydraulic cement concrete pavements. Tape may be installed immediately following the final rolling of new asphalt concrete surface provided installation is done in strict conformance with the preformed tape manufacturer's instructions for this type of application. Tape shall not be applied over existing pavement markings of other materials unless the existing marking is 90 percent worn away or eradicated.

Primer/adhesive shall be used to enhance adhesion in accordance with the manufacturers' installation instructions, except when tape is inlaid immediately following the final rolling of the new asphalt concrete surface.

Tape for pavement line markings shall be applied by an application cart as recommended by the manufacturer. Tape shall be tamped into place with a tamper cart with a weight as recommended by the manufacturer. Vehicle wheels may be used to tamp line markings if allowed by the manufacturer's installation instructions. If vehicle wheels are used to tamp the markings, the Contractor shall ensure that the vehicle tires ride true down the length of the tape marking.

- e. **Patterned preformed tape (Class VI)** shall be installed either under the guidance of the manufacturer's representative or by a manufacturer's certified technician.

Type B, Class VI markings applied to new plant mix asphalt surfaces shall be installed as per manufacturer's installation instructions, except that non-embedded (adhesive) surface application will not be permitted; the markings shall be inlaid in the freshly installed asphalt surface before the pavement mat has cooled. The temperature of the asphalt mat shall be between 100 and 180 degrees. The Type B, Class VI markings shall be inlaid with a roller (minimum 2 tons) operating in a non-vibratory mode when the asphalt mat is between 100 and 180 degrees.

The Contractor shall ensure that markings are not degraded by subsequent operations. Markings that are improperly inlaid during the pavement operations shall be completely eradicated and reapplied via non-embedded surface application at the Contractor's expense.

Surface-applied Type B Class VI markings shall not be installed directly over existing markings, except that Type B Class VI markings may be installed over Type A markings that are fully dry and are at a thickness of 10 mils or less.

- f. **Polyurea (Class VII)** shall be applied in accordance with the manufacturer's installation instructions. Polyurea marking material shall not be applied over existing pavement markings unless the existing marking is 90 percent worn away or eradicated; or over Type A markings that are fully dry and are at a thickness of 10 mils or less.

Polyurea marking material shall be applied at a wet film thickness of 20 mils ( $\pm 1$  mil). Glass beads and retroreflective optics shall be applied at the rate specified in the VDOT Materials Division's Approved Products List 74 for the specific polyurea product.

- 3. **Type D and E temporary pavement markings** shall be installed in accordance with the manufacturers' installation instructions and will be paid for in accordance with Section 512.

- (b) **Pavement message and symbols markings** shall be the color required by the *MUTCD* or the plans for the specific location or as specified by the Engineer. The Contractor shall install message and symbols markings in accordance with Table VII-3, unless otherwise recommended in the manufacturers' installation instructions and approved by the Engineer.

Message and symbol markings include, but shall not be limited to, those detailed in Standard Drawing PM-10.

**TABLE VII-3  
Pavement Markings**

Type	Class	Name	Surface Temp. at Time of Application	Film Thickness (mils)	Pavement Surface	Application Limitations	Appr. List No.
A		Traffic paint	(Note 5)	15 $\pm$ 1 when wet	AC HCC	May be applied directly after paving operations	20
B	I	Thermoplastic Alkyd	(Note 5)	90 $\pm$ 5	AC HCC	May be applied directly after paving operations	43

I	Thermoplastic Hydrocarbon	(Note 5)	90 ± 5 when dry	AC HCC	Do not apply less than 30 days after paving operations	43
II	Preformed Thermoplastic	(Note 5)	120-130	AC HCC	Manufacturers installation instructions	73
III	Epoxy resin	(Note 5)	20 ± 1 when wet	AC HCC	Manufacturers installation instructions	75
IV	Plastic-backed preformed Tape	(Note 5)	60 - 120	AC HCC	Manufacturer's installation instructions	17
VI	Patterned preformed Tape	(Note 5)	20 min (Note 1) 65 min (Note 2)	AC HCC	(Note 4)	17
VII	Polyurea	(Note 5)	20 ± 1	AC HCC	Manufacturer's installation instructions	74
D	II Removable tape	(Note 5)	(Note 3)	AC HCC	Temporary pavement marking	17
	III Wet Reflective Removable tape	(Note 5)	(Note 3)	AC HCC	Temporary pavement marking	17
E	Removable black tape (Non-Reflective)	(Note 5)	(Note 3)	AC	Temporary pavement marking for covering existing markings	17

**Note 1:** Thinnest portion of the tape's cross section.

**Note 2:** Thickest portion of the tape's cross section.

**Note 3:** In accordance with manufacturer's installation instructions.

**Note 4:** In accordance with the manufacturer's installation instructions, except that Type B, Class VI markings on new plant mix asphalt surfaces shall be inlaid into the freshly installed asphalt surface and not surface-applied.

**Note 5:** Surface temperature at time of application shall be in accordance with manufacturer's installation instructions. If the installation instructions do not specify minimum surface temperature, then the markings shall not be installed unless the surface temperature at time of application is 50 degrees F or higher.

Pavement messages and symbols markings shall be installed at locations shown on the plans or at locations designated by the Engineer. The pavement message or symbol shall have clean and well-defined edges without running, bleeding or deformation; shall be uniform in appearance throughout, and free of overlaps.

Type B, Class I hydrocarbon thermoplastic material shall not be used for messages or symbols.

- (c) **Eradication:** Eradication of existing pavement markings shall be in accordance with Section 512 except only 90 percent removal is required where the new markings will completely cover existing markings.
- (d) **Pavement markers:** Retroreflectors for pavement markers shall conform to Section 235 and be the same color as the adjacent pavement marking except the backsides of the markers shall be as follows:
- One-way markers: The backside shall be red and the front side white.
  - Two-way markers: The backside shall match the adjacent pavement marking.
1. **Snow-plowable raised pavement markers** shall be installed by cutting two parallel grooves into the pavement at the depth and dimensions recommended by the marker manufacturer. Grooves shall be parallel to the adjacent pavement marking. Grooves shall be cut with saw blades having a diameter to match the curvature of the steel casting bottom and keels. Keel surfaces and the cut grooves shall be free from moisture, scale, dirt, oil, grease, debris, or any other contaminant that might reduce bonding. Snow-plowable raised pavement markers shall not be installed on existing or new bridge decks. When pavement markers are required on concrete bridge decks, raised

pavement markers shall be used and bonded to the surface using an adhesive in accordance with the manufacturer's recommendations.

Snowplowable raised pavement markers shall be installed at least 2 inches from any joint, crack, or seam.

Casting keels shall be bonded in the saw-cut grooves in accordance with the manufacturers' installation instructions. The bonding material shall be from the Materials Division's Approved Products List 22 for the specific marker. Front and rear keel tips of the casting shall be installed flush with or below the pavement surface. The installed height of the raised pavement marker shall be approximately 1/4 inch to 1/2 inch above the pavement surface. The ambient air temperature, ambient moisture condition, and pavement surface condition shall be in accordance with the manufacturer's installation instructions at the time of installation.

The top of reflectors shall be mounted flush with or below the top of the casting.

If the snowplowable raised pavement marker retroreflector becomes soiled or damaged during installation (including dirtying from duct tape or similar adhesive residue), the retroreflector shall be replaced by the Contractor at no additional cost to the Department.

2. **Raised pavement markers** shall be bonded to the pavement surface in accordance with the manufacturer's installation instructions. The bonding material shall be from the Materials Division's Approved Products List 22 for the specific marker.

**704.04 – Measurement and Payment**

**Pavement line markings** will be measured in linear feet and will be paid for at the contract unit price per linear foot for the type and/or class and width specified. This price shall include surface preparation, premarking, furnishing, installing, quality control tests, daily log, guarding devices, primer/adhesive, glass beads, reflective optics materials when required, and warranty.

**Contrast Pavement Line Marking** will be measured in linear feet and will be paid for at the Contract unit price per linear foot for the type or class and width specified. This price shall include surface preparation, premarking, furnishing, installing, quality control tests, daily log, guarding devices, primer or adhesive, glass beads, reflective optics materials when required, and warranty.

**Pavement message markings** will be measured in units of each per location or in linear feet as applicable and will be paid for at the Contract unit price per each or linear foot. This price shall include surface preparation, premarking, furnishing, installing, quality control tests, daily log, guarding devices, primer or adhesive, glass beads, reflective optics materials when required, and warranty.

**Pavement symbol markings** will be measured in units of each per location for the symbol and type material specified and will be paid for at the Contract unit price per each. This price shall include surface preparation, premarking, furnishing, installing, quality control tests, daily log, guarding devices, primer or adhesive, glass beads, reflective optics materials when required, and warranty.

**Pavement markers** will be measured in units of each for the type specified and will be paid for at the contract unit price per each. This price shall include surface preparation, furnishing, installing, prismatic retroreflectors, pavement cutting, adhesive, castings, quality control tests, and daily log.

**Eradication of pavement markings** will be measured and paid for in accordance with Section 512.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
(Type or class) Pavement line marking (width)	Linear Foot
(Type or Class) Contrast Pavement Line Marking (width)	Linear Foot
Pavement message marking (Message)	Each or Linear Foot
Pavement symbol marking (Symbol, Type or class material)	Each
(Type) Pavement marker (type pavement)	Each

## SECTION 02930 - LAWNS AND GRASSES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplemental Conditions and other Specification sections, apply to work of this section.
- B. Virginia Erosion and Sediment Control Handbook, latest edition.

#### 1.2 SUMMARY

- A. This section includes the following:
  - 1. Fine grading and preparing lawn areas
  - 2. Topsoil
  - 3. Fertilizers
  - 4. Seeding lawns
  - 5. Sodding lawns

#### 1.3 SUBMITTALS

- A. Fertilizer and Lime: Furnish duplicate copies of invoices for all fertilizer and lime used on the project. Invoices for fertilizer shall show the analysis and the quantity furnished. Invoices for lime shall show the percentage of magnesium oxide and quantity furnished. Upon completion of the project, a final check of the total quantities of fertilizer and lime used will be made against the total area seeded and if the rates of application have not been met, additional quantities of these materials shall be applied to make up the application specified.
- B. Seed: Furnish duplicate signed copies of a statement from the vendor, certifying the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging. Each lot of seed will be subject to sampling and testing at the discretion of the Owner.
- C. Mulch: At least 5 working days prior to the initiation of the seeding work, the Contractor shall furnish for approval representative samples of the materials proposed to be used.
- D. Maintenance Instructions: Provide recommended procedures for maintenance of lawns during an entire year.

#### 1.4 QUALITY ASSURANCE

- A. Topsoil Analysis: Furnish a soil analysis made by a qualified independent soil-testing agency stating percentages of organic matter, inorganic matter (silt, clay, and sand), deleterious material, pH, and mineral and plant-nutrient content of topsoil.
  - 1. Report suitability of topsoil for growth of lawns. State recommended quantities of nitrogen, phosphorus, and potash nutrients and any limestone, aluminum sulfate, or other soil amendments to be added to produce a satisfactory topsoil.



### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Seed: Deliver seed in original sealed, labeled, and undamaged containers.
- B. Sod: Harvest, deliver, store, and handle sod according to the requirements of the American Sod Producers Association (ASPA) "Specifications for Turfgrass Sod Materials and Transplanting/Installing."

### 1.6 COORDINATION AND SCHEDULING

- A. Planting Season: Sow lawn seed and install sod during normal planting seasons for type of lawn work required. Correlate planting with maintenance periods to provide required maintenance.
- B. Weather Limitations: Proceed with planting only when existing and forecast weather conditions are suitable for work.

### 1.7 MAINTENANCE

- A. Begin maintenance of lawns immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:
  - 1. Seeded Lawns: 60 days after date of Final Acceptance.
  - 2. Sodded Lawns: 30 days after date of Final Acceptance.
- B. Maintain and establish lawns by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn.
- C. Replant bare areas with same materials as for lawns. Add new mulch in areas where mulch has been disturbed by wind or maintenance operations sufficiently to nullify its purpose. Anchor as required to prevent displacement.
- D. Watering: Provide and maintain temporary hoses, and lawn-watering equipment to convey water from to keep lawns uniformly moist to a depth of 4 inches (100 mm).
  - 1. Water lawn at the minimum rate of 1 inch (25 mm) per week.
- E. Mow lawns as soon as there is enough top growth to cut with mower set at specified height for principal species planted. Repeat mowing as required to maintain specified height without cutting more than 40 percent of the grass height (minimum of 3 mowings). Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain grass to a finished height of 2 to 3 inches (50 to 75 mm) high.
- F. Postfertilization: Apply fertilizer to lawn after first mowing and when grass is dry.
  - 1. Use fertilizer that will provide actual nitrogen of at least 1 lb per 1000 sq. ft. (0.5 kg per 100 sq. m) of lawn area.

### 1.8 LIMITS OF SEEDING

- A. Spread topsoil and seed all areas disturbed by construction and not otherwise covered by paving or structures.

## PART 2 - PRODUCTS

## 2.1 SEED

A. Grass Seed: Fresh, clean, dry, new-crop seed complying with the Association of Official Seed Analysts' "Rules for Testing Seeds" for purity and germination tolerances.

1. Seed Mixture: Provide seed of grass species and varieties, proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed as indicated on Schedule at the end of this section.

## 2.2 SOD

Sod: Certified turfgrass sod complying with ASPA specifications for machine-cut thickness, size, strength, moisture content, and mowed height, and free of weeds and undesirable native grasses. Provide viable sod of uniform density, color, and texture of the following turfgrass species, strongly rooted, and capable of vigorous growth and development when planted.

Species: Provide sod of grass species and varieties, proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed as indicated on Schedule at the end of this Section.

## 2.3 TOPSOIL

A. Topsoil Source: Reuse surface soil temporarily stockpiled on the site. Verify suitability of surface soil to produce topsoil meeting requirements herein and amend when necessary. **Supplement with imported topsoil when quantities are insufficient.** Clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth.

B. Topsoil shall be natural, friable, sandy loam or fine sandy loam, possessing the characteristics of producing heavy growths of agricultural crops and shall be obtained from naturally well-drained areas. The topsoil shall be reasonably free from subsoil, clay lumps, brush, stumps, objectionable weeds, other litter, and any other material or substance which might be harmful to plant growth or a hindrance to grading, planting or maintenance operations. If required from off-site sources, the Owner may require that the topsoil be inspected and approved at its natural location prior to its being moved to the construction site. At the time of inspection, the Owner may require representative soil samples to be taken from several locations of the areas under consideration and tested for physical properties, pH, available phosphate and potash and organic matter. If such tests are required, they shall be at the Contractor's expense.

## 2.4 SOIL AMENDMENTS

A. Lime: ASTM C 602, Class T, agricultural limestone containing a minimum 80 percent calcium carbonate equivalent, with a minimum 99 percent passing a No. 8 (2.36 mm) sieve and a minimum 75 percent passing a No. 60 (250 micrometer) sieve.

1. Provide lime in the form of dolomitic limestone.

B. Aluminum Sulfate: Commercial grade, unadulterated.

C. Sand: Clean, washed, natural or manufactured sand, free of toxic materials.

D. Perlite: Horticultural perlite, soil amendment grade.

E. Peat Humus: Finely divided or granular texture, with a pH range of 6 to 7.5, composed of partially decomposed moss peat (other than sphagnum), peat humus, or reed-sedge peat.

F. Manure: Well-rotted, unleached stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

G. Herbicides: EPA registered and approved, of type recommended by manufacturer.

H. Water: Clean, potable water.

## 2.5 FERTILIZER

A. Slow-Release Fertilizer: Granular fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.

## 2.6 MULCHES

A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.

Peat Mulch: Provide peat moss in natural, shredded, or granulated form, of fine texture, with a pH range of 4 to 6 and a water-absorbing capacity of 1100 to 2000 percent.

Fiber Mulch: Biodegradable dyed-wood cellulose-fiber mulch, nontoxic, free of plant growth- or germination-inhibitors, with maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.

## 2.7 EROSION-CONTROL MATERIALS

A. Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended steel wire staples, 6 inches (150 mm) long.

C. Fiber Mesh: Biodegradable twisted jute or spun-coir mesh, 0.92 lb per sq. yd. (0.5 kg per sq. m) minimum, with 50 to 65 percent open area. Include manufacturer's recommended steel wire staples, 6 inches (150 mm) long.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine areas to receive lawns and grass for compliance with requirements and for conditions affecting performance of the Work. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

1. Protect adjacent and adjoining areas from hydroseed overspraying, if allowed.

B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

### 3.3 PLANTING SOIL PREPARATION

A. Limit subgrade preparation to areas that will be planted in the immediate future.

B. Loosen subgrade to a minimum depth of 4 inches (100 mm). Remove stones larger than 1-1/2 inches (38 mm) in any dimension and sticks, roots, rubbish, and other extraneous matter from subgrade.

- C. Sift topsoil to remove stones and other objects larger than 1” in any dimension.
- D. Mix soil amendments and fertilizers with topsoil at rates indicated. Delay mixing fertilizer if planting does not follow placing of planting soil within 4 days. Either mix soil before spreading or apply soil amendments on surface of spread topsoil and mix thoroughly into top 4 inches (100 mm) of topsoil before planting.
  - 1. Mix lime with dry soil prior to mixing fertilizer.

### 3.4 SODDING NEW LAWNS

- A. Lay sod within 24 hours of stripping. Do not lay sod if dormant or if ground is frozen.
- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
  - Lay sod across angle of slopes exceeding 3:1.
  - Anchor sod on slopes exceeding 6:1 with wood pegs spaced as recommended by sod manufacturer but not less than 2 anchors per sod strip to prevent slippage.
- C. Saturate sod with fine water spray within 2 hours of planting. During first week, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches (38 mm) below the sod.

### 3.5 SEEDING LAWNS

- A. Sow seed with a spreader or a seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h). Evenly distribute seed by sowing equal quantities in 2 directions at right angles to each other.
  - 1. Do not use wet seed or seed that is moldy or otherwise damaged in transit or storage.
- B. Sow seed at a rate of 3 to 4 lb per 1000 sq. ft. (1.5 to 2 kg per 100 sq. m).
- C. Rake seed lightly into top 1/8 inch (3 mm) of topsoil, roll lightly, and water with fine spray.
- D. Protect seeded areas exceeding 4:1 slope/grade against erosion by providing erosion-control blankets installed and stapled according to manufacturer's recommendations.
- E. Protect seeded areas less than 4:1 slope/grade against erosion by spreading straw mulch after completion of seeding operations. Spread uniformly at a minimum rate of 2 tons per acre (45 kg per 100 sq. m) to form a continuous blanket 1-1/2 inches (38 mm) loose depth over seeded areas. Spread by hand, blower, or other suitable equipment.
  - 1. Anchor straw mulch by crimping into topsoil by suitable mechanical equipment.

### 3.6 RECONDITIONING LAWNS

- A. Recondition existing lawn areas damaged by Contractor’s operations, including storage of materials or equipment and movement of vehicles. Also recondition lawn areas where settlement or washouts occur or where minor regrading is required.
- B. Remove sod and vegetation from diseased or unsatisfactory lawn areas; do not bury into soil. Remove topsoil containing foreign materials resulting from Contractor’s operations, including oil drippings, fuel

spills, stone, gravel, and other construction materials, and replace with new topsoil.

- C. Where substantial lawn remains, mow, dethatch, core aerate, and rake. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.
- D. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of it off the Owner's property.
- E. Till stripped, bare, and compacted area thoroughly to a depth of 6 inches (150mm).
- F. Apply required soil amendments and initial fertilizers and mix thoroughly into top 4 inches (100 mm) of soil. Provide new planting soil as required to fill low spots and meet new finish grades.
- G. Apply seed and protect with straw mulch as required for new lawns.
- H. Apply sod as required for new lawns.
- I. Water newly planted areas and keep moist until new grass is established.

### 3.7 SATISFACTORY LAWN

- A. Seeded lawns shall be satisfactory/acceptable provided requirements, including maintenance, have been met and a healthy, uniform, close stand of grass is established, free of weeds, bare spots exceeding 5 by 5 inches (125 by 125 mm), and surface irregularities.
- B. Sodded lawns will be satisfactory provided requirements, including maintenance, have been met and healthy, well-rooted, even-colored, viable lawn is established, free of weeds, open joints, bare areas, and surface irregularities.
- C. Replant lawns that do not meet requirements and continue maintenance until lawns are satisfactory/acceptable.
- D. Substantial Completion may be achieved (pending prior Engineer and Owner approval) before achieving a satisfactory/acceptable lawn. Continue to replant and maintain unsatisfactory/ unacceptable lawn areas until acceptance is obtained. Warranties shall begin at the time of acceptance of the lawn.

### 3.8 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by lawn work from sidewalks and paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto surface of roads, walks, or other paved areas.
- B. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period until lawn is established.

### 3.9 SEED MIXTURES SCHEDULE

- A. Seeded Lawn Areas: Provide certified grass-seed blends or mixes, proportioned by weight, as indicated on the Plan Sheets for the various different planting areas / zones

#### PERMANENT SEED MIX

Ernst Riparian Buffer Mix ERNMX-178 or equivalent (20 lb/acre)

Note: 20 lb/ac with a cover crop at 30 lb/ac (dry sites – grain oats, Jan 1-Aug 1; or grain rye, Aug 1-Jan 1; moist sites – grain rye year-round). Contractor will not mow riparian buffer areas.



Section 617. — GUARDRAIL

*From US DOT, Federal Highway Administration, Standard Specifications (FP-14)*

**Description**

**617.01** This work consists of installing guardrail systems and modifying, removing and resetting, and raising existing guardrail systems.

(a) Guardrail systems are designated as follows:

- CRG — Curved radius W-beam guardrail
- G1 — Cable guardrail
- G2 — W-beam (weak post)
- G3 — Box beam
- G4 — Blocked-out W-beam standard barrier
- G9 — Blocked-out three beam standard barrier
- MB4 — Blocked-out W-beam median barrier
- SBLG — Steel-backed log rail
- SBTA — Steel-backed timber (SBT) guardrail/timber posts and block-out**
- SBTB — SBT guardrail/timber posts and no block-out

(b) Steel guardrail types are designated as follows:

- I — Zinc-coated, 1.80 ounces per square foot (550 grams per square meter)
- II — Zinc-coated, 3.60 ounces per square foot (1100 grams per square meter)
- III — Painted rails
- IV — Corrosion resistant (weathering) steel

(c) Steel guardrail classes are designated as follows:

- A — Metal thickness — 0.105 inches (2.67 millimeters) (12-gauge)
- B — Metal thickness — 0.135 inches (3.43 millimeters) (10-gauge)

(d) Terminals consist of posts, railing, hardware, and anchorage assembly necessary to construct the type of terminal specified. Terminal types are designated as follows:

- Flared — Straight or parabolic flared W beam terminal
- G4-BAT — Back slope anchor terminal
- G4-CRT — Cable releasing terminal
- SBT-BAT — Back slope anchor terminal
- SBT-FAT — Flared SBT anchor terminal
- SBT-Tangent — Tangent SBT terminal
- Tangent — Tangent W beam terminal

## Material

**617.02** Conform to the following Section and Subsections:

Guardrail blocks	710.08
Guardrail hardware	710.10
Guardrail nuts, bolts, and cables	710.09
Guardrail posts	710.07
Minor concrete	601
Rail elements	710.06

## Construction Requirements

**617.03 General.** Furnish guardrail systems and terminals that are crashworthy. When flared or tangent terminals are required, submit drawings from the manufacturer for the terminals according to Subsection 104.03.

Place concrete according to Section 601.

Perform welding according to Subsection 555.17.

**617.04 Post Installation.** Treat field cuts for wood posts with two coats of preservative specified in Subsection 710.07. Do not place field cuts in contact with the ground.

Install the posts plumb and at the location, spacing, and elevation specified, or as directed by the CO.

When the pavement surface is within 36 inches (900 millimeter) of the guardrail face, install posts before placing the pavement surface. Protect posts from traffic by attaching the rail elements or by a method approved by the CO.

Posts may be installed by either drilling or driving. Ensure posts installed by drilling have sufficiently sized holes to permit thorough compaction of backfill material around the post. Backfill in compacted layers not exceeding 12 inches (300 millimeters). Replace posts damaged during driving operations.

When a post cannot be placed at its normal location due to an impenetrable object an additional blockout may be added. If the post cannot be offset, follow the post in rock detail or use the long span detail as shown in the plans or as approved by the CO. Do not change the post lengths or spacings in terminal sections.

When it is not possible to maintain a 24-inch (600-millimeter) minimum distance between the back of the guardrail post and the top of a 1V:2H or steeper slope, increase the standard post length by 12 inches (300 millimeters).

**617.05 Rail Element Installation.** Do not modify specified hole diameters or slot dimensions.

**(a) Steel rail.** Shop bend curved guardrail with a radius of 150 feet (45 meters) or less.

Install rail elements in a smooth continuous line with the laps in the direction of traffic flow. Use bolts that extend at least ¼ inch (6 millimeters), but not more than 1 inch (25 millimeters) beyond the nuts.



Paint scrapes on galvanized surfaces that expose the base metal with two coats of zinc-oxide paint.

**(b) Steel-backed timber and log rail.** Treat field cuts with two coats of preservative.

**617.06 Terminal Sections.** Do not connect the guardrail to cast-in-place anchors until the concrete has cured 7 days. Install end anchor cables without slack.

**617.07 Connection to Structure.** Install posts, railing, hardware, and anchorage assembly necessary to construct the type of connection to structure specified.

**617.08 Guardrail Construction Exposed to Traffic.** When a roadway is open to traffic during construction, complete guardrail installations within 5 days from the day the structure, pavement, shoulder, or whichever is the controlling item of work is sufficiently completed to allow guardrail installation. In areas where guardrail construction is not restricted by other construction, complete removal of existing guardrail and construct new guardrail within 48 hours of starting work.

At the end of each day, securely bolt a rounded end section to the exposed end of the guardrail.

Schedule guardrail installation so work is finished before work suspension or other extended periods of time.

**617.09 Removing and Resetting Guardrail.** Remove and store the existing rail elements, posts, and appurtenances. Remove and dispose of posts that are set in concrete. Replace guardrail, posts, and hardware damaged during removal, storage, or resetting. Backfill holes resulting from the removal of guardrail posts and anchors with material approved by the CO. Dispose of material not used in resetting guardrail according to Section 203.

**617.10 Raising Guardrail.** Remove the existing rail elements and appurtenances. Replace and reset posts as needed. Replace rail elements, posts, and hardware damaged during the removal and raising. Dispose of damaged material according to Section 203.

**617.11 Acceptance.** Material for guardrail will be evaluated under Subsections 106.02 and 106.03.

Construction of guardrail will be evaluated under Subsections 106.02 and 106.04.

Welding will be evaluated under Section 555.

### **Measurement**

**617.12** Measure the Section 617 pay items listed in the bid schedule according to Subsection 109.02 and the following as applicable:

Measure transition sections from G9 rail to G4 rail as G9 rail.

Measure removing and resetting guardrail and raising guardrail including reset terminal sections.

Measure replacement posts (except replacement posts for posts damaged by construction operations) used in the removing and resetting, or raising guardrail.

## Payment

**617.13** The accepted quantities will be paid at the contract price per unit of measurement for the Section 617 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

### Section 710. — FENCE AND GUARDRAIL

*From US DOT, Federal Highway Administration, Standard Specifications (FP-14)*

**710.01 Barbed Wire.** Furnish galvanized wire or aluminum coated wire conforming to AASHTO M 280.

**710.02 Woven Wire.** Furnish galvanized fabric or aluminum coated fabric conforming to AASHTO M 279.

**710.03 Chain Link Fence.** Furnish fabric, posts, rails, ties, bands, bars, rods and other fittings, and hardware conforming to AASHTO M 181.

Furnish 0.177-inch (4.5-millimeter) coiled spring steel tension wire conforming to ASTM A641 hard temper with a Class 3 galvanized coating. Use the same coating on the tension wire as used on the rest of the chain link fence.

**710.04 Fence Posts and Bollards.**

**(a) Wood.** Conform to AASHTO M 168.

Peel bark, except for red cedar posts and bracing, which do not require peeling. Trim knots flush with the surface and season the wood.

For dimension lumber for fences, bollards, or gates, use timber that is sound, straight, and reasonably without knots, splits, and shakes. Provide S4S finish.

**(b) Concrete.** Conform to Section 601.

**(c) Steel.** For line fence posts, conform to AASHTO M 281. For chain link fence, conform to AASHTO M 181.

**710.05 Fence Gates.** For frame gates using chain link fabric, conform to AASHTO M 181. Use the same chain link fabric in the gate as in the fence.

**710.06 Rail Elements.**

**(a) Metal beam rail.** Furnish metal beam rail conforming to AASHTO-AGC-ARTBA, *A Guide to Standardized Highway Barrier Hardware*.

**(1) Galvanized steel.** Furnish W-beam or thrie beam rail fabricated from corrugated sheet steel conforming to AASHTO M 180 for the designated shape, class, type, and mass of coating specified;

**(2) Painted steel.** Furnish W-beam or thrie beam rail conforming to AASHTO M 180 for the designated shape, class, type, and mass of coating specified; or

**(3) Corrosion resistant (weathering) steel.** Furnish W-beam or thrie beam rail conforming to AASHTO M 180, Type IV, Class B.

**(b) Box beam rail.** Furnish steel box beam rail conforming to AASHTO-AGC-ARTBA, *A Guide to Standardized Highway Barrier Hardware*.

**(c) Steel-backed timber rail.** Furnish timber conforming to AASHTO M 168. Fabricate the timber rail from dry, seasoned, and dressed rough sawn Douglas fir, southern pine, or other species having a stress grade of at least 1,500 pounds per square inch (10 megapascals). Do not use refractory species (such as larch or Rocky Mountain Douglas fir). Treat according to AASHTO M 133.

Fabricate steel backing elements according to ASTM A242.

**(d) Steel-backed log rail.** Use logs that are seasoned, straight, and sound No. 1 Grade Western Hemlock, Western Red Cedar, or Pine. Do not use logs that taper in excess of 2 inches (50 millimeters) between the butt and tip ends of adjacent logs. Remove bark and at least 80 percent of the inner bark. Do not use logs with peeler or incision marks on surfaces that will be visible. Do not use logs with knot clusters, season checks, singular or any two opposite each other that exceed the thickness of the member. Logs may contain sound, tight, well-spaced knots. Treat according to AASHTO M 133.

Fabricate steel backing elements according to ASTM A2428.

*710.07 Guardrail Posts.* Furnish guardrail posts conforming to AASHTO-AGC-ARTBA, *A Guide to Standardized Highway Barrier Hardware*.

**(a) Wood.** Furnish posts that do not have a through check, shake, or end slit in the same plane as, or a plane parallel to the bolt hole and extending from the top of the post to within 3 inches (75 millimeters) or the bolt hole. Treat according to AASHTO M 133.

For steel-backed timber guardrail systems, furnish posts conforming to Subsection 710.06(c).

For steel-backed log rail systems, furnish posts conforming to Subsection 710.06(d).

**(b) Steel.** Furnish posts of the appropriate size shape according to ASTM A6. Zinc-coat the embedded portion of weathering steel posts according to ASTM A123.

*710.08 Guardrail Blocks.*

**(a) Wood.** Furnish wood conforming to Subsection 710.07(a).

**(b) Steel.** Furnish steel conforming to Subsection 710.07(b).

**(c) Plastic or composite.** Furnish blocks that are crashworthy. Provide a new homogeneous block with uniform texture that does not crack, chip, flake, peel, or splinter after fabrication.

*710.09 Guardrail Nuts, Bolts, and Cables.*

**(a) Galvanized nuts and bolts.** Furnish nuts conforming to ASTM A563, Grade A. Furnish bolts conforming to ASTM A307, Grade A.

**(b) Weathering nuts and bolts.** Furnish nuts conforming to ASTM A563, Grade C3. Furnish bolts conforming to ASTM A325, Type 3.

**(c) Cable.** Furnish cable conforming to AASHTO M 30, Type II, Class A.

*710.10 Guardrail Hardware.* Furnish hardware conforming to AASHTO-AGC-ARTBA, *A Guide to Standardized Highway Barrier Hardware.*

For angles, channels, wide flanges, and plates not contained in the above standard, conform to ASTM A36 for non-weathering steel or ASTM A242 for weathering steel. For structural tubing for short steel posts, conform to ASTM A500 or ASTM A513, Grade 1008.

Galvanize soil plates and structural tubing according to AASHTO M 111. Do not punch, drill, cut, or weld the metal after galvanizing.

Manufacture reflector tabs from 0.15-inch (4-millimeter) aluminum or plastic. Use an adhesive that resists peeling with a force of 5 pounds per inch (0.89 kilograms per centimeter) of width. Use mildew-resistant adhesive that has no staining effect on retroreflective sheeting. Furnish retroreflective sheeting conforming to ASTM D4956, including supplementary requirements.

*710.11 Temporary Plastic Fence.* Furnish plastic noncorrosive fence fabricated from polyethylene (HDPE) and UV stabilized for outdoor weathering. Conform to the following:

- |                          |                               |
|--------------------------|-------------------------------|
| <b>(a) Height</b>        | 48 in (1200 mm) min.          |
| <b>(b) Mesh openings</b> | 3.15 to 3.35 in (80 to 85 mm) |
| <b>(c) Color</b>         | International orange          |
| <b>(d) Mass</b>          | 0.16 lb/ft (0.25 kg/m) min.   |

**Bid Schedule**

**Improvements to the Crimora Recreational Park**

Augusta County, Virginia

<b>Item No.</b>	<b>Work or Material</b>	<b>Spec No.</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Amount</b>
1	Permit Fees		1	EA	_____	_____
2	Mobilization / Demobilization (ENTIRE PROJECT)		1	EA	_____	_____
3	Construction Entrance	VESCH 3.02	2	EA	_____	_____
4	Construction Survey / Testing		1	EA	_____	_____
5	Clearing & Grubbing		0.35	AC	_____	_____
6	Silt Fence	VESCH 3.05	620	LF	_____	_____
7	Check Dam	VESCH 3.20	4	EA	_____	_____
8	8" ADS N-12 HDPE		40	LF	_____	_____
9	12" ADS N-12 HDPE		13	CY	_____	_____
10	12" Nyoplast Structure - Flat - STR #1		1	EA	_____	_____
11	12" Nyoplast Structure -Dome - STR #2		1	EA	_____	_____
12	ES-1		1	EA	_____	_____
13	Erosion Control Matting, EC-2	VESCH 3.36	126	SY	_____	_____
14	Erosion Control Matting, EC-3, Type A	VESCH 3.36	136	SY	_____	_____
15	4" 21A Base Stone		1300	SY	_____	_____
16	2" SM-12.5A Asphalt (Bid Option)		1110	SY	_____	_____
17	VDOT Type A Pavement Line Marking - 4"	VDOT 704	216	LF	_____	_____
18	Wooden Parking Block		5	EA	_____	_____
19	Timber Backed Guard Rail, Type A	FHA 617-60	165	LF	_____	_____
20	Site Access Gate		1	EA	_____	_____
21	Permanent Seeding (outside of stream restoration zones)		0.5	AC	_____	_____
					<u>Total</u>	_____