

**Project Manual  
for  
Lackey Gravity Sewer  
Rehabilitation Project – Phase 1**

**May 2016**

**IFB No. 2002**

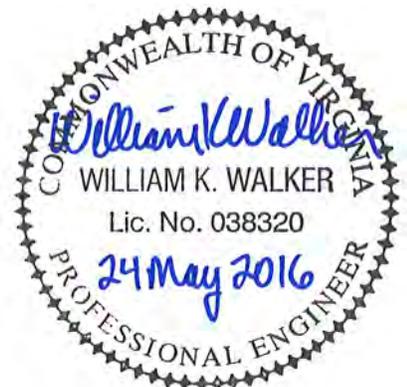


**These Bid Documents refer to the Hampton Roads Planning District Commission's  
Regional Construction Standards, Fifth Edition, December 2010.**

**Prepared by:**

**URS**

11832 Rock Landing Drive, Suite 306  
Newport News, VA 23606



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# ***REGIONAL CONSTRUCTION STANDARDS***

## ***Fifth Edition***

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## York County Modifications to Regional Construction Standards

The Hampton Roads Planning District Commission (HRPDC) Regional Construction Standards, fifth edition has been modified to meet the needs of York County for the “**Lackey Gravity Sewer Rehabilitation – Phase 1**” and to accommodate certain provisions of the York County Procurement Ordinance.

Copies of the Regional Construction Standards can be purchased at the offices of the HRPDC at the following addresses:

723 Woodlake Drive  
Chesapeake, Virginia 23320  
(757) 420-8300

2101 Executive Drive  
Hampton, Virginia 23666  
(757) 262-0094

The document may also be accessed on the Internet electronically at [www.hrpdc.org](http://www.hrpdc.org).

**Copies of the Regional Construction Standards obtained directly from the HRPDC or accessed through the Internet will not contain the modifications made by York County with respect to this Project.**

Changes to the front-ends of the HRPDC Regional Construction Standards as applicable to this Project are shown with ~~strike-throughs~~ for deletions and with *italicized bold text* for additions. Certain Regional Construction Standards technical specifications have been changed or clarified for the needs of this Project and those changes and clarifications will be found in Section 110, Special Provisions, of the Bidding Documents. In the event of a conflict between the Regional Construction Standards and the Regional Construction Standards as modified by York County, the York County modifications shall control.

Bidders are cautioned that copies of the Bidding Documents (Drawings, modified Front-ends, and Special Provisions) acquired from the County of York for this Project are to be used when preparing Bids for this Project. However, it is the Bidder’s responsibility to also acquire a copy(ies) of the HRPDC Regional Construction Standards (without York County modifications) for use in the preparation of Bids and for the execution of the Work.

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## SECTION 101

### DEFINITIONS OF TERMS

#### I. GENERAL DEFINITIONS

Wherever used in the Contract Documents, the following terms shall have the meanings indicated and shall be applicable to both the singular and plural thereof:

- 1.1 *Addenda* - Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Bid Documents or the Contract Documents.
- 1.2 *Agreement* - The written agreement between the Owner and the Contractor covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.
- 1.3 *Application for Payment* - The form provided in the Contract Documents which is to be used by the Contractor in requesting progress and final payments and which is to include such supporting documentation as is required by the Contract Documents.
- 1.4 *Bid* - The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
- 1.5 *Bid Documents* - Documentation issued prior to the bid date, including documentation accompanying the Bid (Drawings, Project Specifications, HRPDC *Regional Construction Standards*, Addenda, and Special Provisions) and any post-Bid documentation submitted prior to the Notice of Award.
- 1.6 *Bidder* - Any person, firm or corporation submitting a Bid for the Work.
- 1.7 *Bonds* - Performance and Payment Bonds furnished by the Contractor and the Contractor's surety in accordance with the Contract Documents.
- 1.8 *Bid Security* - Bid Bonds and other instruments of surety, furnished by the Contractor or the Contractor's surety in accordance with the Contract Documents.
- 1.9 *Change Order* - A written order to the Contractor authorizing an addition, deletion, or revision in the Work within the general scope of the Contract Documents that authorizes an adjustment in the Contract Price and/or Contract Time; issued on or after the Effective Date of the Agreement.
- 1.10 *Completion Date* - The date specified in the Notice to Proceed for final completion of the Work.
- 1.11 *Contract Documents* - The Agreement, including the Bid Documents, Notice of Award, Notice to Proceed, Field Orders, Change Orders, and modifications.

- 1.12 *Contract Price* - The total monies payable to the Contractor under the terms and conditions of the Agreement.
- 1.13 *Contract Time* - The number of calendar days stated in the Agreement for the completion of the Work. Calendar days shall be understood to be consecutive.
- 1.14 *Contractor* - The person, firm or corporation with whom the Owner has executed the Agreement.
- 1.15 *Day* - A calendar day of twenty-four hours measured from midnight to the next midnight. Calendar days shall be understood to be consecutive.
- 1.16 *Defective* - An adjective, which when modifying the word Work, refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to the Owner's acceptance.
- 1.17 *Drawings* - The plans that show the character and scope of the Work to be performed.
- 1.18 *Effective Date of the Agreement* - The date indicated in the introductory paragraph of the Agreement.
- 1.19 *Engineer* - The person, firm or corporation named as such in the Agreement. In the event the Owner should not require the services of the Engineer, then the powers, duties, and responsibilities conferred in the Contract Documents to the Engineer shall be construed to be those of the Owner.
- 1.20 *Field Order* - A verbal or written order effecting a change in the Work not involving an adjustment in the Contract Price or an extension of the Contract Time, issued by the Engineer or Owner to the Contractor during construction.
- 1.21 *Final Completion* - All work, including punch list items noted at the final inspection, is complete to the satisfaction of the Owner.
- 1.22 *Laws and Regulations* - Any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.
- 1.23 *Liens* - Liens, charges, security interests or encumbrances upon real or personal property.
- 1.24 *May* - The term "may" is permissive.
- 1.25 *Notice* - All written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with the Contract Documents. Any written notice by either party to the Agreement shall be sufficiently given if delivered to or at the last known business address of the person, firm or corporation constituting the party to the Agreement, or to his, their, or its authorized agent, representative or officer, or when enclosed in a postage envelope addressed to such last known business address and deposited in a United States mailbox. Notice shall be deemed received within 3 business days of U.S. Mail Service postmark date. ***Unless either party shall advise the other in writing to the contrary, the addresses of the parties set out in the Agreement shall be deemed to be valid for the purposes of the delivery of any Notice.***

- 1.26 *Notice of Award* - A written notice by the Owner to the apparent Successful Bidder stating that upon compliance by the apparent Successful Bidder with the conditions precedent enumerated therein, within the time specified, the Owner will sign and deliver the Agreement.
- 1.27 *Notice to Proceed* - A written notice given by the Owner to the Contractor (with a copy to the Engineer, if appropriate) fixing the date on which the Contract Time will commence to run and on which the Contractor shall start to perform its obligations under the Agreement.
- 1.28 *Owner* – ***The County of York, Virginia.*** ~~The public body or authority, corporation, association, firm or person with whom the Contractor has entered into the Agreement and for whom the Work is to be provided.~~
- 1.29 *Owner's Representative* - The person, firm or corporation named by the Owner to act as the Owner's agent.
- 1.30 *Partial Utilization* - Use by the Owner of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.
- 1.31 *Project* - The entire Work as described in the Contract Documents, including Work that is necessary and incidental to the furnishing of all materials, services, equipment, labor and supplies required to install, perform, and complete all items of Work in accordance with Contract Documents
- 1.32 *Reference Standards* - Those bulletins, standards, rules, methods of analysis or test, codes, and specifications of other agencies, engineering societies, or industrial associations referred to in the Contract Documents. These refer to the latest edition, including amendments in effect and published at the time the Project was advertised, unless specifically referred to by edition, volume, or date.
- 1.33 *Regional Construction Standards* - The construction standards, ***Fifth Edition through Update 14***, published by the Hampton Roads Planning District Commission (HRPDC) ~~as amended from time to time.~~ ***All references in the Bid Documents and in the Contract Documents to the Regional Construction Standards shall be to the Regional Construction Standards as modified by the Owner with respect to the Project.***
- 1.34 *Responsible Bidder* - A person or firm who, in the sole opinion of the Owner, has the capability in all respects, to fully perform the contractual requirements as well as the moral and business integrity and reliability to assure good faith performance.
- 1.35 *Responsive Bidder* - A person or firm who has submitted a bid that conforms in all material respects to the Bid Documents.
- 1.36 *Resident Project Representative* - The authorized representative of the Engineer or Owner who is assigned to the Project or any part thereof.
- 1.37 *Roadway Prism* - All of the land or area within the right of way that needs to be cut, filled, graded, or otherwise disturbed to produce the design cross section, including, but not limited to, areas for curbs, ditches, sidewalks, paths, and slopes to match existing grade.

- 1.38 *Rock* - Any indurated material with a minimum compressive strength of 200psi that requires drilling, wedging, blasting, or other methods of brute force for excavation.
- 1.39 *Shall* - The term "shall" is mandatory.
- 1.40 *Shop Drawings* - All drawings, diagrams, illustrations, schedules, specified design related submittals, and other data or information which are specifically prepared or assembled by or for the Contractor and submitted by the Contractor to illustrate some portion of the Work.
- 1.41 *Special Provisions* - Requirements in addition to or modification of the HRPDC *Regional Construction Standards*.
- 1.42 *Specifications* - Those portions of the Contract Documents or HRPDC *Regional Construction Standards* consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto. ***To the extent of any disparity between the Standard Details set out in the unmodified Regional Construction Standards and those set out in the Drawings or other Contract Documents, the latter shall control.***
- 1.43 *Standard Details* - Those portions of the HRPDC *Regional Construction Standards* consisting of drawings, explanatory of another drawing, indicating in detail and at a larger scale, the design, location, composition and correlation of elements and materials.
- 1.44 *Subcontractor* - A person, firm or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the site.
- 1.45 *Substantial Completion* - That date certified by the Owner when the construction of the Project or a specified part thereof is sufficiently completed in accordance with the Contract Documents, including completion of all tests, so that the Project or specified part can be utilized for the purpose for which it is intended.
- 1.46 *Successful Bidder* - The lowest, responsible and responsive Bidder to whom the Owner (on the basis of the Owner's evaluation as hereinafter provided) makes an award.
- 1.47 *Supplier* - Any person or organization that supplies materials or equipment for the Work, including that fabricated to a special design.
- 1.48 *Underground Facilities* - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.
- 1.49 *Work* - All labor, materials, equipment, transportation, supervision, or other facilities, duties or incidentals necessary for execution and completion of the Project in compliance with the Contract Documents.

End of Section

## SECTION 102

### BIDDING REQUIREMENTS AND CONDITIONS

#### I. INVITATION FOR BIDS

##### 1. Long Form

PROJECT: *Lackey Gravity Sewer Rehabilitation – Phase 1*  
LOCATION: *County of York, Virginia*  
DATE: *May 31, 2016*

The *County of York, Virginia*, will receive sealed Bids for the above titled Project at the office of *Central Purchasing*, located at *120 Alexander Hamilton Boulevard, Yorktown, Virginia, 23690*, until *2:00 a.m./p.m.* local time on *June 30, 2016*, at which time the Bids will be publicly opened and read aloud. Any Bids received after the specified time and date will not be considered.

*This project involves rehabilitation of portions of the gravity sanitary sewer in the Lackey area of York County, Virginia. Services provided by the Contractor shall include, but not be limited to, the furnishing of all materials, equipment, labor, tools, excavation, clearing, grading, restoration, and testing necessary to rehabilitate the sewer system in accordance with the Bidding and Contract Documents.*

The Work under this Project consists of the *rehabilitation of approximately 9,800 linear feet (LF) of 8” gravity sewer, approximately 2,000 LF of public sewer laterals, 50 manholes, and all appurtenances thereto including cleanouts, and pavement reconstruction involving approximately 500 square yards of finished pavement.*

Bid Documents may be examined at the offices of *York County Department of Public Works*, located at *105 Service Drive, Yorktown, Virginia 23692* and ~~have been provided to the following plan room services:~~ *may be downloaded from the following web site:*

<http://www.yorkcounty.gov/CountyGovernment/Finance/CentralPurchasing/Solicitations.aspx>

~~Norfolk Builder’s Exchange  
1118 Azalea Garden Road,  
Norfolk, VA~~

~~Peninsula Builder’s Exchange  
9826 B Warwick Blvd.  
Newport News, VA~~

~~Dodge Plan Room  
9 North Third Street  
Richmond, VA~~

Bid Documents may be obtained from the office of *Central Purchasing* upon a non-refundable payment of *\$75.00* for each set of documents. Neither the Owner nor any of its representatives shall be responsible for full or partial sets of Contract Documents, including addenda, obtained ~~from~~ *from* any other source.

Requests for Bid Documents to be mailed to the Bidder shall be made in writing and accompanied by a non-refundable check in the amount of **\$100.00**. Checks shall be made payable to **Treasurer, County of York**.

The Hampton Roads Planning District Commission's *Regional Construction Standards, Fifth Edition*, December 2010, are hereby referenced and are part of the Bid Documents, except as may be modified by the Special Provisions of this Project or as may be shown by bold *italicized* type for additions and strike-throughs for deletions. Copies of the *unmodified Regional Construction Standards* may be purchased at the offices of the HRPDC, 723 Woodlake Drive, Chesapeake, VA 23320 (Telephone 757-420-8300) or Executive Tower, Suite 1-C, 2101 Executive Drive, Hampton, VA 23666 (Telephone 757-262-0094). The latest edition of the *Regional Construction Standards* and Publication Updates may be downloaded at the HRPDC website: [http://hrregconstds.org/HRRCS\\_CurrentStandards.html](http://hrregconstds.org/HRRCS_CurrentStandards.html)

***Bidders must be aware that these Bid Documents incorporate a number of changes, which supplement, modify, or replace language and/or Standard Details found in the HRPDC Regional Construction Standards. Details shown on the Drawings replace corresponding Standard Details found in the Regional Construction Standards. Changes from the Regional Standards that appear in these Bid Documents are shown as bold italics for additions, and strikethroughs for deletions. Also, see Section 110 for additional references to Special Technical Provisions incorporated into this Project.***

Bid Security in the amount of **five** percent (5%) of the Bid shall be submitted with each Bid.

A MANDATORY PRE-BID CONFERENCE will be held on **June 14, 2016**, at **10:00** a.m.~~p.m.~~ Local Time at **Public Works, Multi-Purpose Room No. 136, 105 Service Drive, Yorktown, Virginia 23692**.

Contractor registration in accordance with Title 2.2 Chapter 43, Code of Virginia is required. The Bidder shall include in its Bid the following notation: "Licensed Virginia Contractor No. \_\_\_\_\_."

Withdrawal of Bids due to error shall be subject to and in accordance with Section 2.2-4330 **method (ii)** of the Code of Virginia and the Contract Documents.

The Owner reserves the right to waive minor non-substantive informalities in the Bid, to reject any~~l~~ or all Bids, to award any Bid in whole or in part, and **to** award the Bid considered to be in the best interest of the Owner. The Owner also reserves the right to negotiate with the lowest responsive, responsible Bidder should Bid exceed available funds.

The **County of York** does not discriminate in the solicitation or awarding of contracts on the basis of race, religion, faith-based organizations, color, national origin, age, disability, or any other basis prohibited by state or federal law.

By: **T.W. Sawyer, CPPO**  
**Central Purchasing**  
**County of York, Virginia**

## 2. Short Form

*(This is an abbreviated version of the IFB intended for newspaper advertisement.)*

### Invitation For Bids

#### County of York, Virginia

Project: **Lackey Gravity Sewer Rehabilitation – Phase I**

Date: **May 31, 2016**

Sealed bids are to be received at **the County of York, Virginia, office of Central Purchasing, 120 Alexander Hamilton Boulevard, Yorktown, Virginia 23690** until **2:00 p.m. Local Time on June 30, 2016** for the above titled Project.

The Work under this Project consists of **rehabilitation of approximately 9,800 linear feet (LF) of 8” gravity sewer, approximately 2,000 LF of public sewer laterals, 50 manholes, and all appurtenances thereto including cleanouts, and pavement reconstruction involving approximately 500 square yards of finished pavement.**

A MANDATORY PRE-BID CONFERENCE will be held on **June 14, 2016, at 10:00 a.m./p.m. local time** at **Public Works, Multi-Purpose Room No. 136, 105 Service Drive, Yorktown, Virginia 23692.**

The full Invitation For Bids is available at **the County of York, Virginia, Office of Central Purchasing, 120 Alexander Hamilton Boulevard, Yorktown, Virginia 23690** and the local office of: **and may be downloaded from the following web site:**

<http://www.yorkcounty.gov/CountyGovernment/Finance/CentralPurchasing/Solicitations.aspx>

Associated Bidding Documents are open to inspection as conditioned in the full Invitation For Bids, at **the County of York, Virginia, Office of Central Purchasing, 120 Alexander Hamilton Boulevard, Yorktown, Virginia 23690.** For additional information concerning this project, please contact **T.W. Sawyer, CPPO, Central Purchasing** at **(757) 890-3680.**

## II. INSTRUCTIONS TO BIDDERS

### 1. Bid Documents

- 1.1. Complete sets of Bid Documents shall be used in preparing Bids. Neither the Owner nor the Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents.
- 1.2. The Owner, in making copies of the Bid Documents available on the above terms does so only for the purpose of obtaining Bids on the Work and does not confer or license or grant permission for any other use.
- 1.3. The Special Provisions for this Project as set forth in Section 110 were prepared by **URS Corporation** and are dated **May 2016**. Additional Special Provisions for this Project appear as modifications to the HRPDC *Regional Construction Standards* by strike-throughs for deletions and bold *italicized* type for additions in Sections 100 through 109.
- 1.4. The Drawings for this Project, prepared by **URS Corporation** and dated **May 2016** are defined as follows:

**County of York, Virginia**  
**Lackey Gravity Sewer Rehabilitation – Phase 1**  
**Advertisement for Bid**  
**IFB No. 2002**

<u>Sheet No.</u>	<u>Page</u>	<u>Sheet Title</u>
<i>T1</i>	<i>1 of 19</i>	<i>Cover Sheet</i>
<i>G1</i>	<i>2 of 19</i>	<i>Index Sheet</i>
<i>G2</i>	<i>3 of 19</i>	<i>General Notes</i>
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## 2. Examination of Contract Documents and Project Site

2.1. It is the responsibility of each Bidder before submitting a Bid:

- A. to examine thoroughly the Bid Documents;
- B. to visit the site to become familiar with and satisfy the Bidder as to the general, local and site conditions that may affect cost, progress, performance, or furnishing of the Work;
- C. to study and carefully correlate the Bidder's knowledge and observations with the Bid Documents and such other related data; and,
- D. to promptly notify the Owner of all conflicts, errors, ambiguities or discrepancies which the Bidder has discovered in or between the Bid Documents and such other related documents or field/site conditions.

2.2 Reference is made to Sections 104 III and 104 IV, for information relating to reports, explorations, underground facilities, and easements. On request, at the discretion of the Owner, the Owner will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests and studies as each Bidder deems necessary for submission of a Bid. The Bidder shall fill all holes and clean up and restore the site to its former condition, including reseeding and/or resodding any disturbed areas upon completion of such explorations, investigations, tests and studies, and hold the Owner harmless from any damage to property or injury to persons resulting from or arising out of such exploration, investigation, tests, and studies. The Bidder shall obtain and comply with all local and state permitting requirements.

## 3. Interpretations and Addenda

3.1. No oral explanation in regard to the meaning of the Contract Documents will be made, and no oral instructions will be given before the award of the Work. Discrepancies, omissions or doubts as to the meaning of the Contract Documents shall be communicated in writing to the Owner for interpretation. Bidders should act promptly and allow sufficient time for a reply to reach them before the submission of their Bids. Any interpretation made will be in the form of an addendum to the Contract Documents, which will be forwarded to all known Bidders, and its receipt shall be acknowledged on the Bid Form. All questions shall be received no later than 7 days prior to the date for opening of Bids.

3.2. Addenda may also be issued to modify the Contract Documents.

## 4. Bid Security

4.1. Each bid shall be accompanied by a Bidder's bond issued by a company authorized and licensed to transact business as surety in the Commonwealth of Virginia, a certified check, or cash escrow, in an amount equal to not less than five (5) percent of the total amount of the bid, made payable to the **County of York**, Virginia. Upon approval of the Owner's attorney, in accordance with ~~Section 2-2 4338, Code of Virginia, 1950, as amended, and with Section 3-8 of the Code of the City/County of York County Purchasing Policy, Virginia, as amended,~~ a Bidder may furnish a personal bond, property bond, or bank or savings and loan association's letter of credit on certain designated funds for the amount required for the Bid Security. The Bid Security shall be accompanied by a certified

copy of the power of attorney for the surety attorney-in-fact. Said bid security shall be left with the Owner, subject to the conditions specified herein, as a guarantee of good faith on the part of the Bidder that if the bid is accepted, the Bidder shall execute the contract.

- 4.2. The Bid Security shall be returned to all except the three (3) lowest Bidders within ten (10) days after the date of Bid opening. The Bid Security will be returned to the three (3) lowest Bidders within five (5) days after the execution of an Agreement and Performance and Payment Bonds and Certificates of Insurance have been approved by the Owner. None of the three (3) lowest Bids shall be deemed rejected, notwithstanding acceptance of one of the Bids, until the Agreement has been executed by both the Owner and the Successful Bidder.

## **5. Liquidated Damages**

- 5.1. Provisions for liquidated damages are set forth in Section 108-X and in Section 102 III (Bid Form).

## **6. Preparation of Bid**

- 6.1. All blanks on the Bid Form shall be completed in ink.
- 6.2. Bids by corporations shall be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
- 6.3. Bids by unincorporated organizations shall be executed in the organization's name and signed by an individual having authority to enter into a contract on behalf of such organization, whose title shall appear under the signature and the official address of the organization shall be shown below the signature. For example, if such organization is a Limited Liability Company, the Bid shall be signed by *a member or its manager in the case of a manager-led Limited Liability Company*, or if such organization is a Limited Partnership, the Bid shall be signed by a general partner.
- 6.4. All names shall be typed or printed in ink below the signature. All names shall be the legal name of the corporation, unincorporated organization and/or individual.
- 6.5. The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).
- 6.6. The address, telephone number, e-mail address and fax number for communications regarding the Bid shall be provided.
- 6.7. It is understood and agreed that, in the event an Agreement is executed for the supplies, equipment or services included in the Bid, no indication of such sales or services to the Owner shall be used in any way in product literature or advertising without the written consent of the Owner.

## **7. Quantities and Unit Prices**

- 7.1. The Owner reserves the right to increase or decrease the amount of any class or portion of the Work. No such change in the Work shall be considered as a waiver of any condition of the Agreement nor shall such change invalidate any of the provisions thereof. Payment will be made at the unit or lump

sum prices under the Agreement only for the work actually performed or materials furnished and accepted.

- 7.2 Bidders shall include in their Bid prices the entire cost of each item set forth in the Bid, and it is understood and agreed that there is included in each lump sum or unit price bid item the entire cost necessary or incidental to the completion of that portion of the work, unless such incidental work is expressly included in other lump sum or unit price bid items.

## **8. General Equipment or Material Specification**

- 8.1. When the Bid Documents specify one or more manufacturer's brand names or makes of materials, devices or equipment as indicating a quality, style, appearance or performance, with the statement "or equal," the Bidder shall base the Bid on either one of the specified brands or an alternate brand which the Bidder intends to substitute. Use of an alternate shall not be permitted unless it has been found to be equal or better by the Owner and at no additional cost to the Owner.

The burden of proof as to the comparative quality and suitability of alternative equipment, articles or materials shall be upon the Bidder. The Bidder shall furnish at its own expense, such information relating thereto as may be required by the Owner. The Owner shall be the sole judge as to the comparative quality and suitability of alternative equipment, articles or materials and the Owner's decisions shall be final. Any other brand, make or material, device or equipment which, in the opinion of the Owner is recognized to be the equal of that specified, considering quality, workmanship and economy of operation and is suitable for the purpose intended, shall be accepted. In the event of any adverse decision by the Owner, no claim of any sort shall be made or allowed against the Engineer or Owner. Samples, if requested by the Bidder, may be returned at the Bidder's expense.

- 8.2. If in the sole discretion of the Owner an item proposed by the Contractor does not qualify as an "or-equal" item it may be considered as a proposed substitute item. The Contractor shall furnish the Owner any such information as the Owner may request to evaluate the substitute item to include estimates of costs or credits, redesign, claims or schedule impacts, warranty or maintenance issues or payment of any license or royalty that could directly or indirectly result from acceptance of the substitute. Any cost or time impacts to the project schedule caused by the Contractor's submission of a substitute shall be borne by the Contractor. Any costs incurred by the Owner or by the Owner's Engineer in reviewing the suitability of the substitute item shall be borne by the Contractor. The Owner may refuse to accept a substitute unless an acceptable adjustment in the contract price is offered by the Contractor.

## **9. Proprietary Material and Equipment Specification**

- 9.1 Where any item of equipment or material is specified by proprietary name, trade name, catalog reference, or name of one or more manufacturers, without the addition of such expressions as "or equal," it is to be understood that those items are so specified for reasons of standardization in maintenance and operation, or for reasons of obtaining desirable features best suited to the requirements of the Specifications. This specific equipment shall form the basis of the Bid and be furnished under the Agreement. Where two or more items of equipment or material are named, the Contractor has the option to use either.

## 10. Additive/Alternate Bids

### 10.1. Additive Bids

Additive bid items are those in addition to the base Bid items. Bidders shall submit additive Bids on all items as shown on the Bid form. Award shall be based on the lowest responsive and responsible Bid for base Bid plus all additive bid items listed and in accordance with any criteria in the Special Provisions.

### 10.2. Alternate Bids

Alternate bid items are those where more than one type of improvement may be considered for a portion or all of the Work due to the character of the improvement and uncertainties which may be encountered during construction. If alternate Bids are requested for a portion of or all of the Work, Bidders shall submit alternate Bids for all alternate(s) the Bidder or its Subcontractor is qualified to perform. Award shall be based on the lowest responsive and responsible Bid for the base Bid plus the amount added or deleted for the alternate bid items selected by the Owner and in accordance with any criteria in the Special Provisions. The alternates selected shall be at the sole discretion and in the best interests of the Owner.

## 11. Submission of Bids

- 11.1. Bids shall be submitted at the time and place indicated in the Invitation for Bids and shall be sealed, marked with the Project title and name and address of the Bidder, and accompanied by the bid guarantee and other required documents. The Bid may not be changed by markings on the envelope. Only the amounts indicated on the Bid Form will be considered in determining the final Bid amount. ***It will be the responsibility of Bidder to see that its bid is in the Purchasing Office by the specified time and date. There will be no exceptions. Date of postmark will not be considered. Phone or telegraphic bids (including FAX) will not be accepted.***
- 11.2. When a license is required, the Bidder shall include in its Bid over the Bidder's signature the following notation: "VIRGINIA LICENSED CONTRACTOR NO. \_\_\_\_\_" (Ref. Title 2.2, Chapter 43, and Title 54.1, Chapter 11, Code of Virginia).
- 11.3. When a license is not so required and a person who is not the holder of a License enters a Bid, such person shall include in its Bid over the Bidder's signature the following notation: "LICENSING NOT REQUIRED UNDER VIRGINIA STATE CODE."
- 11.4. The ~~Contractor~~ **Bidder** shall complete and submit the Debarment Certification form. A copy of the form is included in Section 102, VI at the end of this Section.
- 11.5. The ~~Contractor~~ **Bidder** shall complete and submit the Certificate of Compliance with Immigration Laws and Regulations form. A copy of the form is included in Section 102, VII in this section.
- 11.6. The ~~Contractor~~ **Bidder** shall complete and submit the Non Collusion Affidavit form. A copy of the form is included in Section 102, III.K in this section.

## **12. Receipt and Opening of Bids**

- 12.1. Bids will be opened publicly at the time and place and under the conditions stated in the Invitation for Bids. The Owner's Representative whose duty it is to open Bids will decide when the specified time has arrived. No responsibility will be attached to any such person for the premature opening of a Bid not properly addressed and identified. It is the responsibility of the Bidder to assure that the Bid is delivered to the designated place of receipt prior to the time set for the receipt of Bids. No Bid received after the time designated for receipt will be considered.
- 12.2. Bids will be opened and read aloud publicly.

## **13. Bids to Remain Subject to Acceptance**

- 13.1. All Bids shall remain subject to acceptance for 90 Days after the day of the Bid opening, but the Owner may, in its sole discretion, release any Bid and return the Bid Security prior to that date, or extend the acceptance period an additional 90 days with the consent of the apparent low bidder and surety.

## **14. Withdrawal of Bids**

- 14.1. Withdrawal of Bids filed with the Owner may be made only by a representative of the firm submitting the Bid, who shall appear in person prior to the deadline designated in the advertisement for receipt of Bids. Such representative shall furnish satisfactory identification and proof that they are authorized to withdraw the Bid. Telephone, e-mail, or facsimile notices will not be considered. Additions and/or deletions marked on the outside of the Bid envelope will not be considered.
- 14.2. In accordance with Section 2.2-4330(A)(i) ~~method~~ *method (ii)* of the Code of Virginia, as amended, if the Bid price was substantially lower than the other Bids 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 of original work papers, documents, and materials used in the preparation of the Bid sought to be withdrawn and provided further the Bidder shall give notice in writing of his claim of right to withdraw within two (2) business days after the Bid opening, then the Bid may be withdrawn. The Bidder shall, within the following two (2) business days provide the subjective data required in this section to satisfy the Owner's representative that the grounds for such withdrawal do exist.
- 14.3. Should the Bidder refuse to enter into the Agreement after notification of award, the Bid Security shall be forfeited.
- 14.4. No Bid may be withdrawn under this section when the result would be the awarding of the Agreement on another Bid to the same Bidder or to another Bidder in which the ownership of the withdrawing Bidder is more than five percent.
- 14.5. If a Bid is withdrawn under the authority of this section, the remaining Bids shall be evaluated to determine the lowest responsive and responsible Bidder.

- 14.6 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 awarded, or otherwise benefit, directly or indirectly, from the performance of the Project for which the withdrawn Bid was submitted.
- 14.7 If withdrawal of any Bid is denied, the Bidder shall be notified in writing stating the reasons for this decision. Any Bidder who desires to appeal a decision denying withdrawal of Bid shall, as sole remedy, institute legal action provided by Section 2.2-4358 and Section 2.2-4364(B), Code of Virginia, 1950, as amended, or Section(s) \_\_\_\_\_ of the Code of the City/County of \_\_\_\_\_ Virginia, as amended.

## 15. Evaluation of Bids

- 15.1. In evaluating Bids, the Owner shall consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, unit and lump sum prices, and additive/alternate bid items if requested in the Bid Form.
- 15.2. The Owner may consider the qualifications and experience of subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work for which the identity of Subcontractors and other persons and organizations shall be submitted as specified in the Bid Documents.
- 15.3. The Owner may conduct such investigations as deemed necessary to establish the responsibility, qualifications and financial ability of the Bidders, proposed Subcontractors and other persons and organizations to do the Work in accordance with the Bid Documents to the Owner's satisfaction within the prescribed time.
- 15.4. Bids will be based upon the estimated quantities shown in the Bid Form. Bids will be compared on the basis of a total computed price; arrived at by taking the sum of the estimated quantities of each Bid Item, multiplied by the corresponding unit price bid, and any lump sum Bids on the individual items. Discrepancies between the multiplication of units of work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of words. The right to reject any or all Bids or to accept any Bid considered of advantage to the Owner is reserved.
- 15.5. Unless all Bids are canceled or rejected, the Owner reserves the right granted by ~~Section 2.2-4318 if the Code of Virginia and Section(s) \_\_\_\_\_ of the Code of the City/County of \_\_\_\_\_ Virginia, as amended,~~ **the County of York Purchasing Policy, procurement code section 3-15** to negotiate with the lowest responsible, responsive Bidder to obtain a Contract Price within the funds budgeted for the construction project. Negotiations with the lowest Bidder may include modification of the Contract Price but not the Scope of Work/Specifications to be performed. The Owner shall initiate such negotiations by Written Notice to the lowest responsible, responsive Bidder that its Bid exceeds the available funds and that the Owner wishes to negotiate a lower Contract Price. The Owner and the lowest responsible, responsive Bidder shall agree to the times, places, and manner of negotiations.
- 15.6. The acceptance of a Bid will be a notice in writing, signed by the Owner, and no other act shall constitute the acceptance of a Bid.

15.7 The Owner reserves the right to waive minor informalities in the Bid, to reject any/or all Bids, to award any Bid in whole or in part, and to award the Bid considered to be in the best interest of the Owner.

**16. Qualifications of Bidders and Subcontractors**

16.1. The Contractor’s Questionnaire is included in the Bid Documents and shall be submitted upon request within 72 hours. This information will assist the Owner in investigations and determination of the Contractor's qualifications to perform the Work.

16.2. To demonstrate their qualification to perform the Work, each Bidder shall be prepared to submit further written satisfactory evidence that the Bidder has sufficient experience, necessary capital, materials, machinery, and skilled workers to complete the Work. If financial statements are required, they shall be of such date as the Owner shall determine and shall be prepared on forms acceptable to the Owner. The Owner may make such investigations as deemed necessary to determine the ability of the Bidder to perform the Work. The Owner's decision or judgment on these matters shall be final, conclusive, and binding.

*Satisfactory evidence of sufficient experience shall be provided by the Contractor and any subcontractors. A minimum of three (3) references for work completed within the past three (3) years shall be provided for each category of work shown in the table below. Include completion date and contact information for each reference.*

<i>Work Category</i>	<i>Unit of Measure</i>	<i>Experience per Reference</i>	<i>Total Experience</i>
<i>Sewer Main Rehabilitation by Cured-In-Place Pipe Method</i>	<i>LF</i>	<i>&gt;2,500</i>	<i>&gt;20,000</i>
<i>Lateral Connection Rehabilitation by Cured-In-Place Pipe Method</i>	<i>EA</i>	<i>&gt;50</i>	<i>&gt;250 and &gt;2,500 LF</i>
<i>Cleanout Installation</i>	<i>EA</i>	<i>&gt;10</i>	<i>&gt;50</i>
<i>Manhole Rehabilitation</i>	<i>EA</i>	<i>&gt;20</i>	<i>&gt;200 and &gt;2,000 VLF</i>

16.3. The apparent low Bidder shall, within seven consecutive calendar days after the day of the Bid opening, submit to the Owner a list of all Subcontractors who will be performing work on the Agreement. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of experience and qualification for each such Subcontractor, person and organization. If the Owner, after due investigation, has reasonable objection to any proposed Subcontractor, other person or organization, the Owner may, before giving the Notice of Award, request the apparent low Bidder to submit an acceptable substitute without an increase in Bid price. If the apparent low Bidder declines to make any such substitution, the contract shall not be awarded to such Bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. For any Subcontractors, other person or organization so listed and to whom Owner does not make written objection prior to the giving of the Notice of Award, it will be deemed the Owner has no objection.



- 16.4. By submitting their Bid, Bidders certify that they are not now debarred by the Federal Government or by the Commonwealth of Virginia or by any other state, or by any town, city, or county, from submitting Bids on contracts for construction covered by this solicitation, nor are they an agent of any person or entity that is now so debarred.
- 16.5. If the Bidder is organized as a stock or nonstock corporation, a limited liability company, a business trust, or a limited partnership, or is registered as a registered limited liability partnership, the Bidder must be authorized to transact business in the Commonwealth as a domestic or foreign entity if so required by Title 13.1 or Title 50 of the Code of Virginia, or as otherwise required by law. The Bidder shall include the identification number issued by the State Corporation Commission on the Bid form or describe why the Bidder is not required to be so authorized. Any Bidder failing to do so shall not be awarded the Contract unless the Owner issues a waiver of this requirement and administrative policies and procedures are established by the locality. If the Bidder allows its existence to lapse, or its certificate of authority or registration to transact business in the Commonwealth of Virginia to expire, or be revoked or cancelled, such will be deemed as an act of default enabling the Owner to all remedies for default, including but not limited to revocation of this Agreement.

## **17. Sham or Collusive Bids**

- 17.1. The Bids of any Bidder or Bidders who engage in collusive bidding shall be rejected. Any Bidder who submits more than one Bid in such a manner as to make it appear that the Bids submitted are on a competitive basis from different parties shall be considered a collusive Bidder.
- 17.2. The provisions contained in Sections 2.2-4367 through 2.2-4377, Code of Virginia, as amended, ~~and Section(s) \_\_\_\_\_ of the Code of the City/County of \_\_\_\_\_ Virginia, as amended,~~ shall be applicable to all contracts solicited or entered into by Owner. By submitting their Bids, all Bidders certify that their Bids are made without collusion or fraud, and that they have not offered or received any kickbacks or inducements from any other Bidder, Supplier, manufacturer or subcontractor in connection with their Bid, and they have not conferred with any public employee having official responsibility for this procurement transaction, any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.

## **18. Time of Essence**

- 18.1 As the provisions hereof relating to the time for performance and completion of the Work are for the purpose of enabling the Owner to proceed with the construction of public improvements in accordance with pre-planned programs, such provisions are of the essence.

## **19. Immigration Reform and Control Act of 1986**

- 19.1 By submitting their proposal, Bidders/offerors certify that they do not, and will not during the performance of this contract, employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986.
- 19.2 All Bidders must submit a completed Certification of Compliance with Immigration Laws and Regulations form (See Section 102.VII) with their Bid.

**III. BID FORM**

Bids to be opened: **2:00 p.m., June 30, 2016**  
 Work to be Completed in: **150 Calendar Days (Substantial)**  
**180 Calendar Days (Final)**  
 Liquidated Damages: **\$500.00** per calendar day after time for  
 Substantial Completion has expired.  
**\$500.00** per calendar day after time for  
 Final Completion has expired.  
 Performance Bond: 100%  
 Payment Bond: 100%  
 Bid Security: 5%

To: **County of York, Virginia**  
**105 Service Drive**  
**Yorktown, Virginia 23690**  
**IFB No. 2002**

**A. BID PRICE**

**OPTION A - LUMP SUM BID (Unused)**

**OPTION B - COMBINATION LUMP SUM AND UNIT PRICE BID (Unused)**

**OPTION C - UNIT PRICE BID**

In compliance with the Bid Documents, titled **Lackey Gravity Sewer Rehabilitation – Phase 1, which incorporates the HRPDC Regional Construction Standards, Fifth Edition as amended for the Project, including** all Addenda issued to date all of which are part of this Bid, the undersigned hereby proposes to furnish all items including materials, supervision, labor, and equipment in strict accordance with said Contract Documents for the sum of:

<b>NO.</b>	<b>ITEM</b>	<b>UNIT</b>	<b>QUANTITY</b>	<b>UNIT PRICE</b>	<b>TOTAL PRICE</b>
1	Mobilization, Complete (up to 5% of total price of all other base bid items)	LS	1		
2	Construction Entrance	EA	7		
3	Inlet Protection	EA	6		
4	Silt Fence	LF	2,500		
5	Tree Protection	EA	200		
6	Undercut Excavation with Bedding Backfill as Directed by Owner	CY	100		



7	Select Material, Type II – Sand as Directed by Owner, Complete-in-Place	Ton	50		
8	Select Material, Type II – Stone as Directed by Owner, Complete-in-Place	Ton	50		
9	Miscellaneous Unclassified Excavation as Directed by Owner	CY	100		
10	Aggregate Base Material, Complete-in-Place	Ton	50		
11	Prime Coat Prior to Reconstruction, Complete-in-Place	SY	500		
12	Reconstructed Asphalt Pavement, Complete-in-Place	SY	500		
13	Concrete Driveway Restoration at Main Line or Lateral Crossing, Complete-in-Place	SY	100		
14	Exposed Aggregate Concrete Driveway Restoration at Main Line or Lateral Crossing, Complete-in-Place	SY	100		
15	Asphalt Driveway Restoration at Main Line or Lateral Crossing, Complete-in-Place	SY	500		
16	Aggregate Driveway Restoration, Complete-in-Place	Ton	50		
17	4" PVC Gravity Sewer Lateral Replacement, Installed Complete-in-Place	LF	50		
18	6" PVC Gravity Sewer Lateral Replacement, Installed Complete-in-Place	LF	50		
19	4" PVC Gravity Sewer Lateral Cleanout Assembly, Installed Complete-in-Place	Each	4		
20	6" PVC Gravity Sewer Lateral Cleanout Assembly, Installed Complete-in-Place	Each	4		
21	Heavy Duty Sanitary Cleanout Frame and Cover, Installed Complete-in-Place	Each	20		
22	4" Gravity Sewer Lateral CIPP T-Liner, Installed Complete-in-Place	Each	36		
23	6" Gravity Sewer Lateral CIPP T-Liner, Installed Complete-in-Place	Each	11		
24	4" Gravity Sewer Lateral CIPP Tube Liner, Installed Complete-in-Place	Each	33		
25	6" Gravity Sewer Lateral CIPP Tube Liner, Installed Complete-in-Place	Each	6		
26	6" DI Casing Pipe, Installed Complete-in-Place	LF	100		
27	8" DI Casing Pipe, Installed Complete-in-Place	LF	100		

December 2010

102 - 14

May 2011 – Update #1

Lackey Gravity Sewer Rehabilitation – Phase I

May 2016

County of York

IFB No. 2002



28	12" DI Casing Pipe, Installed Complete-in-Place	LF	200		
29	Heavy Cleaning, Gravity Sanitary Sewer	LF	2000		
30	8" Gravity Sanitary Sewer CIPP Lining for Partially Deteriorated Host Pipe, Installed Complete-in-Place	LF	8630		
31	8" Gravity Sanitary Sewer CIPP Lining for Fully Deteriorated Host Pipe, Installed Complete-in-Place	LF	1130		
32	4' x 8" Gravity Sanitary Sewer CIPP Sleeve, Installed Complete-in-Place	Each	1		
33	10' x 8" Gravity Sanitary Sewer Point Repair incl. Replace Tap, Installed Complete-in-Place	Each	3		
34	8" PVC Gravity Sanitary Sewer Main, Installed Complete-in-Place	LF	52		
35	PVC Gravity Sewer Lateral Internal Drop Assembly, Installed Complete-in-Place	Each	2		
36	8" PVC Gravity Sewer Main Internal Drop Assembly, Installed Complete-in-Place	Each	5		
37	Raised Manhole Frame and Cover, Installed Complete-in-Place	Each	3		
38	Replacement Manhole Frame and Cover, Installed Complete-in-Place	Each	5		
39	Stainless Steel Manhole Insert, Installed Complete-in-Place	Each	45		
40	PVC Manhole Vent, Installed Complete-in-Place	Each	2		
41	Manhole Chimney Interior Mechanical Seal, Installed Complete-in-Place	Each	5		
42	Manhole Chimney Interior Parging and Chemical Sealant, Installed Complete-in-Place	Each	46		
43	Parge Manhole Exterior and Apply Cement Layer, Installed Complete-in-Place	Each	1		
44	4' Sanitary Sewer Manhole Abandonment, Complete	Each	1		
45	4' Sanitary Sewer Manhole Rehabilitated with Epoxy Coating, Complete-in-Place	Each	40		
46	5' Sanitary Sewer Manhole Rehabilitated with Epoxy Coating, Complete-in-Place	Each	9		
47	5' Sanitary Sewer Manhole Replacement, Installed Complete-in-Place	Each	2		
			Total		

December 2010

102 - 15

May 2011 – Update #1

Lackey Gravity Sewer Rehabilitation – Phase 1

May 2016

County of York

IFB No. 2002



Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents. The prices quoted shall include without exception all materials, supervision, labor, equipment, appliances, clean-up, incidental items, applicable sales, use and other taxes, insurance, building permit or fees, and the Contractor's labor, overhead, profit, mobilization and other mark-ups, and in full accordance with the Contract Documents. Include allowance for waste where appropriate. The unit prices shall be maintained throughout the Contract Time. Unit prices shall be used in determining additions or deductions from the total Contract Price in the event of changes due to unforeseen conditions in the Work.

B. ADDENDA

The undersigned acknowledges receipt of the following addenda:

Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_.

Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_.

Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_.

- C. We agree to enter into an Agreement with the **County of York**, Virginia within ten (10) days of the award of same to us for the price named in our Bid.
- D. It is expressly agreed by us that the **County of York**, Virginia shall have the right to reject any and all Bids and to waive any minor non-substantive errors in the Bid and accept the Bid in the **County of York's** best interests.
- E. In default of the performance on our part of the conditions of Bid, our failure to enter into an Agreement with the **County of York**, Virginia, within the time above set, we herewith furnish a Bid Security in the amount of \$\_\_\_\_\_, which shall be absolutely forfeited to the **County of York**, Virginia, but otherwise the said Bid Security shall be returned.
- F. We agree to begin Work at any time we may be notified by the Owner, and complete all of the Work embraced in the Agreement within **180 Calendar** Days;
- G. *[This applies to projects over \$200,000 unless otherwise indicated]*. I/We elect to utilize the Escrow Account Procedure described in the provision of this bid if determined to be the successful low Bidder. \_\_\_\_\_ (write "Yes" or "No").  
\_\_\_\_\_ Bid total does not qualify for escrow account option
- H. The undersigned has read all sections under "Instructions to Bidders."
- I. By signing, each signatory acknowledges any strike-throughs contained herein, unless hand-written.

J. CONTRACTOR'S REGISTRATION, SCC NUMBER, AND SIGNATURE

Registered Virginia Contractor Class and No. \_\_\_\_\_

Registration Expires \_\_\_\_\_

State Corporation Commission (SCC) Number \_\_\_\_\_

*(NOTE: FAILURE TO INCLUDE CONTRACTOR'S REGISTRATION and SCC NUMBER ARE GROUNDS FOR REJECTION OF THE BID.)*

Contractor \_\_\_\_\_ Signed \_\_\_\_\_

Date \_\_\_\_\_ Title \_\_\_\_\_

NOTE: If Bidder is a corporation, write state of incorporation under signature.

MAILING ADDRESS AND TELEPHONE/FAX NUMBER OF BIDDER:

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

( ) \_\_\_\_\_ [Telephone] Email \_\_\_\_\_;

FAX \_\_\_\_\_

IF CORPORATION, PROVIDE NAME AND MAILING ADDRESS AS REQUIRED BELOW.

PRESIDENT

SECRETARY

TREASURER

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

IF PARTNERSHIP, PROPRIETORSHIP, LIMITED LIABILITY COMPANY OR OTHER FIRM, PROVIDE NAME AND MAILING ADDRESS OF EACH PARTNER, PROPRIETOR, OR MEMBER OF FIRM.

_____	_____	_____
_____	_____	_____
_____	_____	_____



K. NON COLLUSION AFFIDAVIT

*County of York, Virginia project: provision of all labor, materials, equipment, and other items necessary and incidental for the rehabilitation of a gravity sanitary sewer collection system including, but not limited to, gravity sanitary sewer, manholes, laterals, and cleanouts in the Lackey area of York County, Virginia.*

**Lackey Gravity Sewer Rehabilitation – Phase 1**

Bid Date: **June 30 , 2016**

COMMONWEALTH OF VIRGINIA  
(City/County)

This day personally appeared before the undersigned, a Notary Public in and for the City/County and State aforesaid,

\_\_\_\_\_ who having been first duly sworn according to law, did depose and aver as follows:

(a) That he/she is \_\_\_\_\_  
(Owner, Partner, President, etc.)

of \_\_\_\_\_  
(insert name of Bidder)

(b) That he/she is personally familiar with the Bid of \_\_\_\_\_  
(Insert Company Name)  
submitted in connection with the above captioned Owner’s project.

(c) That said Bid was formulated and submitted in good faith as the true bid of said Bidder.

1. In preparation and submission of this Bid, the Bidder did not either directly or indirectly, enter into any combination or agreement with any person, firm or corporation or enter into any agreement, participate in any collusion, or otherwise take any action in the restraint of free, competitive bidding in violation of the Sherman act (15 U.S.C. Section 1) or sections 59.1-9.1 through 59.1-9.17 or sections 59.1-68.6 through 59.1-68.8 of the Code of Virginia.
2. The undersigned Bidder hereby certifies that neither this Bid nor any claim resulting therefrom, is the result of, or affected by, any act of collusion with, or any act of another person or persons, firm or corporation engaged in the same line of business or commerce; and that no person acting for or employed by the Owner has any personal interest in this Bid.
3. The undersigned hereby further agrees that upon request of the Owner, the records and books pertaining to this Bid will be voluntarily supplied, furnished, and released to the Owner.
4. The undersigned hereby further certifies that the Bidder has not knowingly falsified, concealed, misled, or covered up by any trick, scheme, or device a material fact in connection with this bid. The undersigned also certifies that the Bidder has not made any false, fictitious or fraudulent statements or representations or made or used any



false writing or documents knowing the same to contain any false, fictitious or fraudulent statement or entry in connection with this Bid.

5. The undersigned further agrees that the Bidder will comply with section 2.2-4374 of the Code of Virginia, 1950, as amended, and has not bought or purchased any equipment from any person employed by the Owner as an independent contractor to furnish architectural or engineering services for this Project, nor from any partnership, association or corporation in which such architect or engineer has a pecuniary interest.
6. The undersigned further agrees to inform and require compliance by the following persons and entities with this anti-collusion statement as a condition of payment: all subcontractors, consultants, subconsultants, or any person, corporation, or legal entities that provide or furnish labor, material, equipment, or work related to this project.
7. All Covenants and Agreements made by the Contractor are made by it on behalf of the Contractor and its successors, personal representatives and assigns, the same as if they had been specifically named in each instance.

And further this deponent saith not.

\_\_\_\_\_  
Name of Company/Bidder

\_\_\_\_\_  
Title (Owner, Partner, President)

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

My commission expires: \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
Notary Public

**IV. BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, \_\_\_\_\_ as Principal, and \_\_\_\_\_ as Surety, are hereby held and firmly bound unto \_\_\_\_\_ as OWNER in the penal sum of \_\_\_\_\_ (Five Percent) for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

The Condition of the above obligation is such that whereas the Principal has submitted to the OWNER a certain BID, attached hereto and hereby made a part hereof to enter into an Agreement in writing, for the \_\_\_\_\_

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver an Agreement in the Form of Agreement attachment hereto (properly completed in accordance with said BID) and shall furnish a BOND for faithful performance of said Agreement, and for the payment of all persons performing labor or furnishing materials in connection therewith, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year set forth above.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Surety

By: \_\_\_\_\_  
Attorney-in-Fact

IMPORTANT - Surety companies executing BONDS shall appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the Commonwealth of Virginia.



**V. QUESTIONNAIRE**

If requested by the Owner, the following questions shall be answered in full by the Bidder, and returned to the Owner within 72 hours.

- 1. Name of Company: \_\_\_\_\_  
Trade Name (if different from Company Name): \_\_\_\_\_  
Principal Office Address: \_\_\_\_\_  
\_\_\_\_\_  
Telephone No(s): \_\_\_\_\_  
Fax No(s): \_\_\_\_\_

- a. If a Corporation, answer the following:  
  
When Incorporated: \_\_\_\_\_  
  
In What State: \_\_\_\_\_  
  
Names and Addresses of Directors: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
  
Names and Addresses of Shareholders: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- b. If an Unincorporated Organization, answer the following:  
  
Date of Organization: \_\_\_\_\_  
  
Names and Addresses of Owners or Members: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
  
Type and State of Organization: \_\_\_\_\_

- c. If a Partnership, state whether Partnership is General or Limited: \_\_\_\_\_  
  
Names and Addresses of Owners or Partners:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



2. a. How many years has this Bidder been in business as a Contractor under its present business name? \_\_\_\_\_
- b. What are prior names of this Bidder, if any? \_\_\_\_\_

3. How many years' experience in this type of construction work has this Bidder had:

- 1) As a Contractor \_\_\_\_\_ 2) As a Subcontractor \_\_\_\_\_

4. Provide a list of uncompleted Contracts at present held by this Bidder (attach supplemental sheet if necessary):

<u>Contract</u>	<u>Type of Work</u>	<u>Amount</u>	<u>Percentage Completed</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

5. List the Bidder's crew foremen and supervisors proposed for this Project and their years of related experience:

<u>Name</u>	<u>Years of Experience</u>	<u>Dates of Employment with Bidder</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. What construction equipment does this Bidder own that is available for the proposed work (attach supplemental sheet if necessary)?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





9. Have you ever performed work for a municipal corporation, local governing body, or similar agency previously? (If all such bodies are listed under 8, this question need not be completed.)-

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10. a. Has this Bidder ever failed to complete any work awarded to it? \_\_\_\_\_ If yes, give name of Owner, name of Bonding Company and circumstances:

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b. Is this Bidder debarred by the Federal Government or by the Commonwealth of Virginia or by any other state, or by any town, city, or county?

Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, please provide details:

---

---

c. Has this Bidder ever had any judgments entered against it for the breach of contract for construction? \_\_\_\_\_ If yes, please provide details:

---

---

d. Give a summary of your financial statement. (List assets and liabilities, use an insert sheet, if necessary).

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11. State approximate largest dollar volume of work performed by this Bidder in one year:

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12. Give two (2) Banking Institution References:

a. Name: \_\_\_\_\_

Address: \_\_\_\_\_

Credit Available: \_\_\_\_\_

b. Name: \_\_\_\_\_

Address: \_\_\_\_\_

Credit Available: \_\_\_\_\_

13. List three material suppliers and amount of credit available:

_____	_____
_____	_____
_____	_____

14. List insurance coverage and amount (or attach certificate of insurance):

\_\_\_\_\_

Liability-Property

\_\_\_\_\_

Liability-Personal Injury

\_\_\_\_\_

Vehicle and Equipment

\_\_\_\_\_

Other - Identify

15. Bonding reference - List surety company and highest coverage:

\_\_\_\_\_

16. Have you or your authorized representative, personally inspected the location of the proposed Work, and do you have a clear understanding of the requirements of the Bid Documents?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The undersigned hereby authorizes and consents to any person, firm or corporation to furnish any information requested by the Owner in verification of this statement of contractor's qualifications. Also, if it is the apparent low Bidder, the undersigned hereby agrees to furnish the Owner upon request, a complete and current financial statement:

Contractor: \_\_\_\_\_

By: \_\_\_\_\_

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

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

**VI. CERTIFICATION REGARDING DEBARMENT**

This is to certify that this person/firm/corporation is not now debarred by the Federal Government or by the Commonwealth of Virginia or by any other state, or by any town, city, or county, from submitting Bids on contracts for construction covered by this solicitation, nor are they an agent of any person or entity that is now so debarred.

\_\_\_\_\_  
Name of Official

\_\_\_\_\_  
Title

\_\_\_\_\_  
Firm or Corporation

\_\_\_\_\_  
Date

## VII. CERTIFICATION OF COMPLIANCE WITH IMMIGRATION LAWS AND REGULATIONS

Section 2.2-4311.1 of the *Code of Virginia* requires every public body to provide in every written contract that the Contractor does not, and shall not, during the performance of the contract, knowingly employ an unauthorized alien in violation of City/County Code requires that any person or entity doing business with the City/County of \_\_\_\_\_, including its boards and commissions, shall include a sworn certification by the Contractor of compliance with all federal immigration laws and regulations. These laws include the Federal Immigration Reform and Control Act, which makes it unlawful for a person or other entity to hire, recruit or refer for a fee for employment in the United States, an alien knowing the alien is unauthorized, and Section 40.1-11.1 of the Code of Virginia, which makes it unlawful for any employer to knowingly employ an alien who cannot provide documents indicating that he or she is legally eligible for employment in the United States. The state law, in particular, places an affirmative duty on employers to ensure that aliens have proof of eligibility for employment.

Accordingly this certification shall be completed and attached to all contracts and agreements for goods and services made by the City/County of \_\_\_\_\_ or any of its boards and commissions. Failure to attach a completed certification shall render the contract or agreement void.

***Type or print legibly when completing this form.***

Legal Name of Contractor: (Note: This is your name as reported to the IRS. This should match your Social Security card or Federal ID Number.)

Type of Business Entity:

Sole proprietorship (Provide full name and address of owner):

Limited Partnership (Provide full name and address of all partners):

General Partnership (Provide full name and address of all partners):

Limited Liability Company (Provide full name and address of all managing members):

Corporation (Provide full name and address of all officers):

Doing Business As:

If Applicable (Note: This is the name that appears on your invoices but is not used as your reporting name.)

Name and Position of Person Completing this Certificate:

Physical Business Address:

Primary Correspondence Address (If different from physical address):

Number of Employees:

**Are all Employees Who Work in the United States Eligible for Employment in the United States?**

Under penalties of perjury, I declare on behalf of the Contractor listed above that to the best of my knowledge and based upon reasonable inquiry, each and every one of the Contractor's employees who work in the United States are eligible for employment in the United States as required by the Federal Immigration Reform and Control Act of 1986 and Section 40.1-11.1 of the Code of Virginia. I further declare on behalf of the Contractor that it shall use due care and diligence to ensure that all employees hired in the future who will work in the United States will be eligible for employment in the United States. I affirm that the information provided herein is true, correct, and complete.

Sworn this \_\_\_ day of \_\_\_\_\_, 201\_ on behalf of \_\_\_\_\_ as evidenced by the following signature and seal:

Name of Contractor: \_\_\_\_\_

Printed Name of Signatory: \_\_\_\_\_

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

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

COMMONWEALTH OF VIRGINIA:

CITY/COUNTY OF \_\_\_\_\_, to-wit:

The foregoing instrument was acknowledged before me this \_\_\_ day of \_\_\_\_\_, 201\_\_, by \_\_\_\_\_.

\_\_\_\_\_  
Notary Public

Registration No.: \_\_\_\_\_

My commission expires: \_\_\_\_\_

End of Section

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## SECTION 103

### AWARD AND EXECUTION OF AGREEMENT

#### I. AWARD AND EXECUTION OF AGREEMENT

##### 1. Notice of Award

- 1.1. A Notice of Award will be issued by the Owner, or the Bids rejected as soon as reasonably possible, but no later than 90 Days after the date of the opening of Bids. The Owner may, in its sole discretion, release any Bid and return the Bid Security prior to that date, or extend the acceptance period an additional 90 days with the consent of the apparent low bidder and surety.
- 1.2. The Owner reserves the right to waive any minor informalities, to reject any and all Bids in whole or in part, and may advertise for new Bids if, in its judgment, the best interests of the Owner will be served.
- 1.3. ~~At the time of the issuance of the Notice of Award, the Owner shall publicly post an announcement of the award on/at the (name of site, bid board, newspaper, etc.)~~ ***Bid results are posted on the County of York web page at [www.yorkcounty.gov/purchasing](http://www.yorkcounty.gov/purchasing).***

##### 2. Signing of Agreement

- 2.1. When the Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by 4 original copies of the Agreement, with all other written Contract Documents attached. Within 10 Days thereafter the Contractor shall sign and deliver all the original copies of the Agreement and attached documents to the Owner with the required Bid Security and Certificate of Insurance. Within 30 Days thereafter the Owner shall deliver one fully signed copy to the Contractor.
- 2.2. If the Successful Bidder fails to execute the Agreement within the time specified, the amount of Bid Security shall be paid to the Owner. In such case the Owner, at its discretion, may award the Work to the second Successful Bidder, or reject all Bids.

##### 3. Performance and Payment Bonds

- 3.1. The Successful Bidder shall execute and provide to the Owner, within 10 Days following Notice of Award, Performance and Payment Bonds with surety in an amount equal to 100% of the accepted Bid. The sureties of all Bonds shall be of such surety company or companies as are approved by the Owner and are authorized to transact business in the Commonwealth of Virginia. If the execution is by an attorney-in-fact, a power of attorney evidencing the authority of such attorney shall be attached to the Bond. Such power of attorney shall bear the same date as the Bond to which it is attached.
- 3.2. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws and Regulations and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U. S. Treasury Department ***and licensed to do business in Virginia.***

3.3. Performance and Payment Bonds shall remain in full force during the warranty period defined in Section 107, VII.

#### 4. Contractor's Insurance

4.1. The Contractor shall provide and keep in full force and affect during the performance of the Work the kinds and amounts of insurance specified in Section 4.3 below and shall comply with all other provisions of this Section. Such insurance shall be provided and kept in full force by insurance companies authorized to do business in the Commonwealth of Virginia, and regulated by the Virginia Bureau of Insurance. All premiums and other costs of such insurance shall be paid by the Contractor. It will be assumed that the consideration paid or to be paid to the Contractor for the performance of the Work includes the premiums and other such costs of such insurance, and the Owner shall not be responsible therefore. Each insurance policy and certificate of insurance shall be signed by duly authorized representatives of such insurance companies in the State and shall be countersigned by duly authorized agents of such companies. The Contractor shall not be required to furnish the Owner with copies of the insurance contracts required by this Section unless requested from time to time by the Owner; but the Contractor shall provide on forms furnished by the Insurance Company or Owner a Certificate of Insurance issued by such Insurance Companies, in which the company shall irrevocably warrant that the insurance is provided to enable the Contractor to comply with and provide the required insurance; (provided, however, that in no event shall the insurance contract be expanded to afford coverage which is greater than the maximum coverage approved for writing in the Commonwealth of Virginia) and that it will not be canceled unless at least thirty days' prior written Notice to the effect is given to the Owner, anything in such insurance contract to the contrary notwithstanding, and that the insurance contract has been endorsed accordingly.

4.2. The Contractor shall provide the certificate of insurance to the Owner within 10 Days following the Notice of Award.

#### 4.3. Insurance Requirements:

A. The Contractor shall purchase and maintain during the life of this Agreement such Comprehensive General Liability Insurance including product and completed operations liability insurance as will provide protection from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether such performance is by Contractor, or by Subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and shall otherwise bear responsibility therefore. The Contractor further agrees that all limits will be made available which are excess of the amounts below:

(1) Workers Compensation and Employers Liability

Coverage A - Statutory

Coverage B - \$100,000/\$100,000/\$500,000

A broad form of all states endorsement shall be attached.

(2) Commercial Auto Liability Including Hired and Non-Owned Car Liability Coverage

Limit of Liability - \$1,000,000 Per Occurrence

The Contractor shall purchase and maintain during the life of this Agreement such commercial automobile liability insurance including employer's non-ownership liability and hired car liability insurance to protect him and any Subcontractors performing Work covered by this Agreement from claims for damages, whether such operations be by him or any Subcontractor, or by anyone directly or indirectly employed by either of them.

- (3) Commercial General Liability Including Contractual and Completed Operations.

Limit of Liability - \$1,000,000 Per Occurrence

- (4) Excess Liability Including Employers Liability, Commercial Auto Liability and Commercial General Liability.

Limit of Liability - \$1,000,000 Per Occurrence  
\$3,000,000 Aggregate

- B. The Contractor shall be responsible for securing the Work site and shall assume all risk for vandalism or other damage that may occur, to project components, during construction.
- C. The Owner, *its Officers, agents, and employees* shall be named as an additional insured on the Commercial General Liability, *Commercial Auto Liability, and Excess Liability policies* per ISO 2010 on a primary basis. The Contractor shall obtain a waiver of subrogation from its insurers on Worker's Compensation and All Risk Insurance policies. This requirement may be satisfied by obtaining appropriate endorsements to any master or blanket policy of insurance maintained. Owner's Commercial General Liability shall not contribute in any loss payment insured under the Contractor's Commercial General Liability policy.
- D. Contingent liability and property damage insurance to protect the Owner (or his employees and agents, including the Engineer) shall be provided by endorsements to general liability or property damage policies. All aforesaid policies shall be endorsed to provide that the insurance company shall notify the Owner if policies are to be terminated or altered during the life of the contract.
- E. The General Liability insurance shall carry a contractual liability endorsement covering the hold harmless agreements contained in the Owner standard contract and the certificates filed with the Owner shall show that the contractual liability coverage has been obtained.
- F. Insurance coverage for personal injury and property damage, including insurance on vehicles and equipment, shall be in the same company.
- G. The Contractor shall also be required to submit to the Owner evidence of insurance coverage or self-insurance for all claims arising under the Worker's Compensation Laws of the State of Virginia.
- H. *To the fullest extent permitted by Law or Regulation, the Contractor shall* ~~The Contractor~~ ~~will~~ indemnify and hold harmless the Owner, and the Owner's officers, agents, employees,

and other representatives, against any liability, loss or expense (including the loss of use of the Project), due to any act or omission of Contractor or any of their Subcontractors or of any of their respective employees in connection with the Work of the Contractor hereunder ~~or due to any omissions or supervisory acts of the Owner in connection with the Work performed by the Contractor.~~, except to the extent such liability, loss, or expense is caused by or results solely from the negligence of the Owner, its agents, or employees.

**II. NOTICE OF AWARD**

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PROJECT TITLE: Lackey Gravity Sewer Rehabilitation – Phase 1  
\_\_\_\_\_  
\_\_\_\_\_

The Owner has considered the Bid submitted by you for the above described Work in response to its Invitation for Bids dated \_\_\_\_\_, 2016, and Instructions to Bidders.

You are hereby notified that your Bid has been accepted for the Work in the amount of \$\_\_\_\_\_.

You are required by the terms of the Bid Documents to fully execute and return \_\_\_\_\_ copies of the Agreement along with the required Contractor’s Performance Bond, Payment Bond, and Certificates of Insurance within \_\_\_\_\_Days from the date of this Notice of Award.

If you fail to execute the Agreement and to furnish said Bonds and Certificate of Insurance within \_\_\_\_\_ Days from the date of this Notice, said Owner will be entitled to consider all your rights arising out of the Owner’s acceptance of your Bid as abandoned and as a forfeiture of your Bid Security. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the Owner. The notice of award shall not be construed as notice to proceed.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

**OWNER**

**CONTRACTOR**

\_\_\_\_\_  
*Owner*

\_\_\_\_\_  
*Contractor*

By: \_\_\_\_\_  
*Name*

By: \_\_\_\_\_  
*Name*

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

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



### III. AGREEMENT

This AGREEMENT, dated this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by and between County of York, Virginia, Department of Public Works hereinafter called the Owner; and

\_\_\_\_\_ (a corporation or an unincorporated organization organized and existing under the laws of the State of \_\_\_\_\_ or, an individual trading under the above name) hereinafter called the Contractor.

WITNESSETH: The Owner and Contractor, for the consideration stated herein, agree as follows:

#### A. Scope of Work

The Contractor shall perform all required Work and shall provide and furnish all labor, materials, necessary tools, expendable equipment, and utility and transportation service and all else required to complete the construction of the Lackey Gravity Sewer Rehabilitation – Phase I project all in strict accordance with the Drawings and Specifications, including any and all Addenda, and in strict compliance with the Contract Documents, the terms of which are incorporated herein by reference.

It is understood and agreed that said labor, materials, tools, equipment and service shall be furnished and said Work performed and completed under the direction and supervision of the Contractor and subject to the approval of the Owner or its authorized representative.

#### B. Engineer

This Project has been designed by URS Corporation who is hereinafter called the Engineer and who is to act as the Owner's Representative, assume all duties and responsibilities, and have the rights and authority assigned to the Engineer in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents. In the event the Owner should not require the services of the Engineer for any or all parts of the project, the power, duties, and responsibilities conferred hereto to the Engineer shall be construed to be those of the Owner or its authorized representative.

*Wherever references are made in these Bid Documents to the Virginia Department of Transportation (VDOT) specifications, unless otherwise noted, references in the VDOT specifications to "State", "Chief Engineer", or "Department" shall be interpreted as referring to the Owner.*

#### C. Guarantee

All materials and equipment, furnished by the Contractor, and all construction involved in this Agreement are hereby guaranteed by the Contractor to be free from defects owing to faulty materials or workmanship for a period of one year after date of Substantial Completion of the Work. All Work that proves defective, by reason of faulty material or workmanship within said period of one year, shall be replaced by the Contractor free of cost to the Owner. These guarantees shall not operate as a waiver of any of the Owner's rights and remedies for default under or breach of the Agreement which rights and remedies may be exercised at any time within the period of any applicable statute of limitations.

***In accordance with the VDOT Special Provision for Underground Installation, the Contractor shall provide a three (3) year warranty against pavement settlement or failure.***

D. Contract Price

The Owner shall pay the Contractor as just compensation for the satisfactory performance of the Work, subject to any additions or deductions as provided in the Contract Documents, the unit and/or lump sum price as contained in the Bid Schedule attached hereto.

The Contract Price is \_\_\_\_\_ (\$ \_\_\_\_\_) based upon unit and/or lump sum prices extended as herein contained.

Change Orders that individually or in aggregate increase the Contract Price by more than 25% of the above stated Contract Price must be approved by the locality's governing body prior to the performance of the Work by the Contractor.

E. Payments

The Owner will pay the Contract Price to the Contractor in the manner and at such times as set forth in Section 109 of the Hampton Roads Planning District Commission *Regional Construction Standards*, Fifth Edition, as referenced in Section I. below and as specifically revised for this Project.

F. Time

The undersigned Contractor agrees to commence Work within **30** Days after the date of Notice to Proceed and further agrees to substantially Complete all Work under this Agreement within **150** Days from the date of the Notice to Proceed and to reach Final Completion of all Work under this Agreement within **180 Calendar** Days from the date of the Notice to Proceed.

G. Applicable Law/Compliance

(1) Applicable Law

This Agreement shall be deemed to be a Virginia contract and shall be governed as to all matters of validity, interpretations, obligations, performance, or otherwise, exclusively by the laws of the Commonwealth of Virginia, and all questions arising with respect thereto shall be determined in accordance with such laws. Regardless of where actually delivered and accepted, this Agreement shall be deemed to have been delivered and accepted by the parties in the Commonwealth of Virginia.

(2) Compliance with all Laws

Contractor shall comply with all federal, state and local statutes, ordinances, and regulations, now in effect or hereafter adopted, in the performance of Work set forth herein. Contractor represents that it possesses all necessary licenses and permits required to conduct its business and will acquire any additional license and permits necessary for performance of this Agreement prior to the initiation of Work. [If the Contractor is a corporation] Contractor further expressly represents that it is a corporation in good standing in the Commonwealth of Virginia and will remain in good standing throughout the term of the contract. Contractor

shall at all times observe all health and safety measures and precautions necessary for the sanitary and safe performance of the contract Work.

(3) Venue

Any and all suits for any claims or for any breach or dispute arising out of these Contract Documents shall be maintained in the appropriate court of competent jurisdiction in the *County of York, Virginia*.

(4) Environmental Considerations

Any cost or expense associated with environmentally related violations of the law, the creation or maintenance of a nuisance, or releases of hazardous substance, including but not limited to, the cost of any clean up activities, removals, remediation, responses, damages, fines, administrative or civil penalties or charges imposed on the Owner, whether because of actions or suits by any governmental or regulatory agency or by any private party, as a result of the release of any hazardous substances, or any noncompliance with or failure to meet any federal, state or local standards, requirements, laws, statutes, regulations or the law of nuisance by the Contractor (or its agents, officers, employees, subcontractors, consultants, subconsultants, or any other persons, corporations, or legal entities employed, utilized, or retained by the Contractor) in the performance of this Agreement or related activities, shall be paid by the Contractor.

(5) Non-Discrimination/Drug-Free Workplace Provisions

(a) Employment discrimination by Contractor shall be prohibited. During the performance of this Agreement, Contractor agrees as follows:

- (i) 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/consideration reasonably necessary to the normal operation of Contractor. Contractor will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act, and the Code of Virginia § 2.2-4311. If the award is made to a faith-based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the Agreement on the basis of the recipient's religion, religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith-based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

- (ii) Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that Contractor is an equal opportunity employer.
- (iii) Notices, advertisements and solicitations placed in accordance with federal law, rule or regulations shall be deemed sufficient for the purpose of meeting the requirements of this section.
- (iv) Contractor will include the provisions of the foregoing subsections (i) and (ii), and (iii) in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

(b) During the performance of this Agreement, Contractor agrees as follows:

- (i) Contractor will provide a drug-free workplace for Contractor's employees.
- (ii) Contractor will 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 Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- (iii) Contractor will state in all solicitations or advertisements for employees placed by or on behalf of Contractor that Contractor maintains a drug-free workplace.
- (iv) Contractor will include the provisions of the foregoing subsections (i), (ii) and (iii) in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.
- (v) 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, 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."

#### H. Liquidated Damages

The damage and loss to the Owner resulting from failure of the Contractor to complete the Work within the time specified in this Agreement, plus any extension of time granted, shall be stipulated in Section 108.X, and Section 102.III, Bid Form. Damage monies may be withheld on partial and final payment to the Contractor. (See Section 102.III Bid Form and Section 108.X for explanation and specified dollar amounts.)

I. Component Parts of the Contract

This Agreement includes all completed components of the Bid and Contract Documents as defined in Section 101 of the HRPDC *Regional Construction Standards* (Latest Edition indicated in the Invitation For Bids), as revised for this Project all of which are incorporated herein by reference.

J. Binding

This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

K. Changes to the Agreement

No provision of this Agreement shall be changed, amended, modified, waived, or discharged except as agreed to in writing by the Owner and the Contractor.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the day and first above written in (\_\_\_\_\_) counterparts each of which shall for all purposes be deemed an original.

**OWNER**

**CONTRACTOR**

\_\_\_\_\_  
*Owner*

\_\_\_\_\_  
*Contractor*

By: \_\_\_\_\_  
*Name*

By: \_\_\_\_\_  
*Name*

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

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

Attest: \_\_\_\_\_

Attest: \_\_\_\_\_

Address: \_\_\_\_\_

Address: \_\_\_\_\_

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

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

Contractor's Registration No.: \_\_\_\_\_

(If Contractor is a corporation or an unincorporated organization, attach evidence of authority to sign.)

*[Corporate Seal]*

APPROVED AS TO FORM:

\_\_\_\_\_  
City/County Attorney



**IV. PERFORMANCE BOND**

Bond No. \_\_\_\_\_  
Amount: \$ \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS, that \_\_\_\_\_  
\_\_\_\_\_ of \_\_\_\_\_  
\_\_\_\_\_, hereinafter called the Contractor and \_\_\_\_\_ a corporation duly  
organized and existing under and by virtue of the laws of the State of \_\_\_\_\_, hereinafter called  
the Surety, and authorized to transact business within the Commonwealth of Virginia as the Surety, are held  
and firmly bound unto the County of York, Virginia as Owner, in the sum of  
\_\_\_\_\_ dollars (\$ \_\_\_\_\_), lawful  
money of the United States of America, for payment of which, well and truly be made to the Owner, the  
Contractor and the Surety bind themselves and each of their heirs, executors, administrators, successors, and  
assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the Contractor has executed and entered into a certain Agreement, hereto attached, with the  
Owner dated \_\_\_\_\_, 2016, for the Lackey Gravity Sewer Rehabilitation – Phase I project.

NOW THEREFORE, if the Contractor, and its successors and assigns, shall at all times duly, promptly, and  
faithfully perform the Work and any alteration in or addition to the obligations of the Contractor arising  
thereunder, including the matter of infringement, if any, of patents or other proprietary rights, and shall assure  
all guarantees against defective workmanship and materials, including the guarantee period following final  
completion by the Contractor and final acceptance by the Owner and comply with all the covenants therein  
contained in the Specifications, Drawings, and other Contract Documents required to be performed by the  
Contractor, in the manner and within the times provided in the Agreement, and shall fully indemnify and save  
harmless the Owner from all costs and damage which it may suffer by reason or failure to do so, and shall  
fully reimburse and repay it all outlay and expenses which it may incur in making good any default, and  
reasonable counsel fees incurred in the prosecution of or defense of any action arising out of or in connection  
with any such default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that the Surety, for value received, for itself and its successors and assigns, hereby  
stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract  
Documents or to the Work to be performed thereunder, or payment thereunder before the time required  
therein, or waiver of any provision thereof, or assignment, subletting or transfer thereof or any part thereof,  
shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change,  
extension of time, alteration, addition to the terms of the Contract Documents or any such payment, waiver,  
assignment, subcontract or transfer.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the  
right of any beneficiary hereunder, whose claim may be unsatisfied.

Whenever Contractor shall be declared by Owner to be in default under the Contract, the Owner having  
performed Owner’s obligations thereunder, the Owner shall have the right, at its option, to require the Surety  
to promptly proceed to remedy the default within 30 days of notice by proceeding or procuring others to  
proceed with completing the Agreement with its terms and conditions; and all reserves, deferred payments,  
and other funds provided by the Agreement to be paid to Contractor shall be paid to Surety at the same times  
and under the same conditions as by the terms of that Agreement such fund would have been paid to



Contractor had the Agreement been performed by Contractor; and Surety shall be entitled to such funds in preference to any assignee of Principal of any adverse claimant. Notwithstanding the above, the Owner shall have the right, with the approval of the Surety which shall not be unreasonably withheld, to take over and assume completion of the Agreement and be promptly paid in cash by the Surety for the cost of such completion less the balance of the Contract price.

IN WITNESS WHEREOF, all above parties bounded together have executed this instrument this \_\_\_\_ day of \_\_\_\_\_, 2016, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

\_\_\_\_\_

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

Name: \_\_\_\_\_

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

\_\_\_\_\_  
Attest

SURETY

\_\_\_\_\_

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

\_\_\_\_\_  
Attest

APPROVED AS TO FORM: \_\_\_\_\_, 2016

\_\_\_\_\_  
OWNER

NOTE: Date of Bond shall not be prior to the date of the Agreement. If the Contractor is a partnership, all partners shall execute the Bond.

IMPORTANT: The Surety named on this Bond shall be one who is licensed to conduct business in the Commonwealth of Virginia, and named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent shall be accompanied by a certified copy of the authority to act for the Surety at the time of signing of this Bond.



**V. PAYMENT BOND**

Bond No. \_\_\_\_\_  
Amount: \$ \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS, that \_\_\_\_\_  
\_\_\_\_\_ of \_\_\_\_\_  
\_\_\_\_\_, hereinafter called the Contractor and \_\_\_\_\_ a corporation duly  
organized and existing under and by virtue of the laws of the State \_\_\_\_\_, hereinafter called  
the Surety, and authorized to transact business within the Commonwealth of Virginia as the Surety, are held  
and firmly bound unto the County of York, Virginia as Owner, in the sum of  
\_\_\_\_\_ dollars (\$ \_\_\_\_\_), lawful  
money of the United States of America, for payment of which, well and truly be made to the Owner, the  
Contractor and the Surety bind themselves and each of their heirs, executors, administrators, successors, and  
assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the Contractor has executed and entered into a certain Agreement, hereto attached, with the  
Owner dated \_\_\_\_\_, 2016, for the Lackey Gravity Sewer Rehabilitation – Phase I project.

NOW THEREFORE, if the Contractor shall promptly make payments to all persons, firms, subcontractors,  
and corporations furnishing materials for or performing labor in the prosecution of the Work provided for in  
the Agreement, and any authorized extension or modification thereof, including all amounts due for  
materials, lubricants, oil, gasoline, repairs on machinery, equipment, and tools consumed, used or rented in  
connection with the construction of the Work, and all insurance premiums on the Work, and for all labor  
performed in the Work, whether by Subcontractor or otherwise, then this obligation shall be void, otherwise  
to remain in full force and effect.

PROVIDED, HOWEVER, that the Surety, for value received, hereby stipulates and agrees that no change,  
extension of time, alteration, or addition to the terms of the Contract Documents or to the Work to be  
performed thereunder, shall in any way affect its obligation on this Bond, and it does hereby waive notice of  
any such change, extension of time, alteration, or addition to the terms of the Contract Documents.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the  
right of any beneficiary hereunder, whose claim may be unsatisfied.



IN WITNESS WHEREOF, all above parties bounded together have executed this instrument this \_\_\_\_ day of \_\_\_\_\_, 2016, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

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

Name: \_\_\_\_\_

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

\_\_\_\_\_  
Attest

SURETY

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

\_\_\_\_\_  
Attest

APPROVED AS TO FORM: \_\_\_\_\_, 2016

\_\_\_\_\_  
OWNER

NOTE: Date of Bond shall not be prior to the date of the Agreement. If the Contractor is a partnership, all partners shall execute the Bond.

IMPORTANT: The Surety named on this Bond shall be one who is licensed to conduct business in the Commonwealth of Virginia, and named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent shall be accompanied by a certified copy of the authority to act for the Surety at the time of signing of this Bond.



**VI. NOTICE TO PROCEED**

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DATE: \_\_\_\_\_  
PROJECT: Lackey Gravity Sewer Rehabilitation –  
Phase 1 \_\_\_\_\_  
\_\_\_\_\_

You are hereby notified to commence Work in accordance with the Agreement dated \_\_\_\_\_, **2016**, on or before \_\_\_\_\_, **2016**, and you are to substantially complete the Work within **150 Calendar** Days thereafter and reach Final Completion of the Work within **180 Calendar** Days thereafter. The date of Final Completion of all Work is therefore \_\_\_\_\_, **2016**.

Liquidated damages as stipulated in the Bid Form, in the amount of **\$500.00** per Day for failure of the Contractor to substantially complete the Work by the date for Substantial Completion and **\$500.00** per Day for failure to complete the Work by the date for Final Completion, will be assessed by the Owner as stated above or as may be modified by duly executed Change Orders.

OWNER: \_\_\_\_\_

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

ACCEPTANCE OF NOTICE:

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by:

\_\_\_\_\_

this the \_\_\_\_\_ day of

\_\_\_\_\_, **2016**

CONTRACTOR: \_\_\_\_\_

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_



**VII. NOTICE OF INTENT TO AWARD**

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PROJECT TITLE:           *Lackey Gravity Sewer Rehabilitation – Phase 1*            
\_\_\_\_\_  
\_\_\_\_\_

The Owner has considered all the Bids submitted for the above described Work in response to its Invitation for Bids dated \_\_\_\_\_, **2016**, and Instructions to Bidders.

This is to advise that the Owner intends to award the contract for this Work to \_\_\_\_\_.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, **2016**.

**OWNER**

\_\_\_\_\_  
*Owner*  
By: \_\_\_\_\_  
*Name*  
Title: \_\_\_\_\_

End of Section

## SECTION 104

### SCOPE OF WORK

#### I. INTENT OF AGREEMENT

- 1.1. The intent of the Agreement is to provide for completion of the Work specified therein.
- 1.2. If, during the performance of the Work, the Contractor finds a conflict, error or discrepancy in the Contract Documents, the Contractor shall so report to the Owner in writing at once and before proceeding with the Work affected thereby, except in the case of emergency or public safety, shall obtain a written interpretation or clarification from the Owner however, the Contractor shall not be liable to the Owner for failure to report any conflict, error or discrepancy in the Contract Documents unless the Contractor has actual knowledge thereof or should reasonably have known thereof.

#### II. AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS

- 2.1. The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof by a Change or Field Order pursuant to Section 109 II.

#### III. EXPLORATIONS AND REPORTS

- 3.1. Reference is made to the Special Provisions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by the Owner in preparation of the Contract Documents.
- 3.2. The Contractor shall visit the site of the proposed Work and make such explorations as the Contractor determines to be necessary.

#### IV. UNDERGROUND FACILITIES

- 4.1. The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to the Owner or Engineer by the owners of such Underground Facilities or by others.
- 4.2. The Owner and Engineer shall not be responsible for the accuracy or completeness of any such information and data. The Contractor shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the Contract Documents, for coordination of the Work with the owner's of such Underground Facilities during construction, for the safety and protection of said facilities, and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Base Bid.
- 4.3. If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which the Contractor could not reasonably have been expected to be aware of, the Contractor shall, promptly after becoming aware thereof and before performing any Work affected thereby, identify and immediately notify the owner of such Underground Facility and give written Notice thereof to that owner and to the Owner. The Owner

will promptly review the Underground Facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and the Contract Documents will be amended or supplemented to the extent necessary. During such time the Contractor shall be responsible for the safety and protection of any such Underground Facility which is in service or which is to be placed in service. The Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility in service or which is to be placed in service, which directly and unavoidably impacts the installation of the Work, that was not shown or indicated in the Contract Documents and which the Contractor could not reasonably have been expected to be aware of.

- 4.4. If the existence of an Underground Facility described above unavoidably impacts the installation of the Work, the Contractor shall, to the fullest extent possible, continue the Work on other portions of the site. All delays must be shown by the Contractor to be directly attributable to said unforeseen conditions and limited to the time actually occasioned by such unforeseen conditions, and that the Contractor has prosecuted the other portions of the Work to the fullest extent possible.
- 4.5. The Contractor shall comply with the Underground Utility Damage Prevention Act, Section 56-265.14 through 56-265.32, Code of Virginia of 1950, as enacted and amended, and shall be responsible for notifying the owners of utilities and requesting the locating and marking of all underground facilities before beginning any excavation.
- 4.6. The Contractor should be aware that in some instances buried cables, gas lines, sewer lines, and water lines 2-inches and smaller in diameter may have to be excavated by hand and slightly relocated to facilitate construction of the Work under this Agreement. This shall be considered incidental to the Work, and the Contractor will not be eligible for additional compensation.
- 4.7. At points where the Contractor's operations are adjacent to the properties of any utility, including railroads, and damage to which might result in considerable expense, loss, or inconvenience, Work shall not commence until arrangements necessary for the protection thereof have been completed.
- 4.8. The Contractor shall cooperate with owners of utility lines so that removal and adjustment operations may progress in a reasonable manner, duplication of adjustment work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted.
- 4.9. If any utility service is interrupted as a result of accidental breakage or of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the authority in the restoration of service. If utility service is interrupted, repair work shall be continuous until service is restored. The Contractor shall be responsible for any damage to utilities that are attributable to his neglect or methods of performing the Work.

## **V. SUBSURFACE CONDITIONS**

- 5.1. The Contractor shall promptly, and if possible, before such conditions are disturbed, except in the event of an emergency, notify the Owner by written Notice of:
  - A. subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents; or

- B. unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract Documents.
- 5.2. The Owner shall promptly investigate the conditions, and if it is confirmed that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the Work, an equitable adjustment shall be made and the Agreement shall be modified by a Change Order. Any claim of the Contractor for adjustment hereunder shall not be allowed unless the Contractor has given the required written Notice; provided that the Owner may, if the facts so justify, consider and adjust any such claims asserted before the date of final payment.
- 5.3 All required written Notices shall be submitted to the Owner within 20 Days after occurrence of the event giving rise to such claim, or within 20 Days after the claimant recognizes the condition, whichever is later.

## **VI. SITE SECURITY**

- 6.1. The Contractor shall be responsible for the security and safety of all project facilities including, but not limited to, all equipment, materials, site structures, and construction thereon. All security measures deemed necessary by the Contractor to comply with this requirement shall be at the Contractor's expense at no additional cost to the Owner. The Contractor shall be responsible for all site security until final acceptance of the Work by the Owner.

## **VII. CLEAN-UP, DISPOSAL AND RESTORATION**

- 7.1. The Contractor shall maintain the site of the project in an orderly and clean condition and shall at intervals of no more than three (3) working days and at its expense, remove and legally dispose of accumulations of rubbish or refuse materials, surplus concrete, mortar and excavated materials not required or suitable for backfill from public and private property and rights-of-way. Washings from concrete mixers or mixing boxes shall not be deposited directly or indirectly in the drainage or sewer system or on paved streets. The Contractor shall keep the site, inclusive of vehicular and pedestrian traffic routes through the site, free of dirt and dust by periodic blading, power brooming, watering or other approved means. Road surfaces adjacent to the work area shall be cleaned of soil with mechanical brooms or other approved methods at the end of each working day. Road shoulders and driveways shall be stabilized so as to allow traffic flow (including mail and paper delivery vehicles, school buses and emergency vehicles) by the end of each working day.
- 7.2. The Contractor shall confine all equipment, the storage of materials and equipment, and the operations of workmen to areas permitted by law, ordinances, permits, or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with materials or equipment.
- 7.3. The Contractor shall not load nor permit any part of any structure to be loaded with weights that will endanger the structure, nor shall any part of the work be subjected to stresses or pressures that will endanger it.
- 7.4. Upon completion and before final acceptance of the Work performed under the Agreement, the Contractor shall remove and legally dispose of all rubbish, surplus or discarded materials, false work, forms, temporary structures, field offices, signs, temporary erosion and siltation control measures, and equipment and machinery, and shall leave the site and ground occupied in connection with the

performance of the Work in the conditions existing before the Work was started, to the satisfaction of the Owner.

- 7.5. All waste materials, including but not limited to excavated materials, demolished pavement, arboreal (landscaping) waste and other debris, that are not suitable for Project related purposes (e.g., backfill) or are surplus to the needs of the Project, both as determined by the Owner, shall become the property of the Contractor. The Contractor shall dispose of all such material in accordance with his accepted Disposal Plan, as specified below, at no additional cost to the Owner.
- A. The Contractor shall submit a Disposal Plan for review and acceptance by the Owner prior to performing any Work that might generate waste materials. The plan shall include a complete description of the materials that are expected to be encountered and their proposed disposal site(s). The Contractor may change his Disposal Plan only by written notice to the Owner. The acceptance of a plan and/or any related notice to the Owner must be evidenced by a written response from the Owner.
  - B. The Contractor shall insure that all permits related to his disposal operations have been obtained, and the Contractor shall comply with all requirements of those permits. The Contractor shall show evidence that all required permits have been obtained for all disposal sites by submitting a copy of all such permits to the Owner as part of the Contractor's Disposal Plan.

End of Section

## SECTION 105

### CONTROL OF WORK

#### I. REUSE OF CONTRACT DOCUMENTS

- 1.1. Neither the Contractor nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with the Owner shall have or acquire any title to or ownership rights in any of the Contract Documents (or copies thereof) prepared by or bearing the seal of the Engineer; and, they shall not reuse any of the Contract Documents on extensions of the Project or any other project without written consent of the Owner and Engineer and specific written verification by the Owner.

#### II. COPIES OF CONTRACT DOCUMENTS

- 2.1. The Owner will furnish to the Contractor up to five (5) copies of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

#### III. CONTRACT DOCUMENTS

- 3.1. The Contract Documents will govern the Work set forth therein.
- 3.2. In cases of conflicts, Special Provisions shall govern over the *Regional Construction Standards*; Specifications shall govern over Drawings; figure dimensions shall govern over scaled dimensions; and, detailed Drawings shall govern over general Drawings; unless, the interpretation would result in a violation of any law or regulation applicable to the performance of the Work. ***Standard Details contained in the Drawings shall govern over corresponding Standard Details contained in the Regional Construction Standards.***
- 3.3. The Contractor shall, upon discovering any error, omission, or discrepancy in the Contract Documents, immediately notify the Owner.

#### IV. SHOP DRAWINGS AND SUBMITTALS

- 4.1. The Contractor shall compile a complete and comprehensive schedule of all the submittals anticipated to be made during the progress of the Work. The schedule shall include a list of each type of item for which the Contractor's drawings, Shop Drawings, material affidavits, material samples, ***certificates, warranties, guarantees, operations and maintenance manuals, testing and adjustment reports, plans, schedules,*** or other types of submittals are required ***by the Contract Documents.***
- 4.2. Prior to each submittal, the Contractor shall carefully review and coordinate all aspects of each item or sample submitted with any other item or sample being submitted and verify that each item and sample adheres in all respects with the requirements of the Contract Documents.
- 4.3. The Contractor shall certify that all materials used in the Work are in complete compliance with all specified provisions. Certification shall not be construed as relieving the Contractor from its responsibility of furnishing satisfactory materials. At the time of each submission, the Contractor shall in writing call the Owner's attention to any deviations that the Shop Drawings or samples may

have from the requirements of the Contract Documents. ***By making a submission for approval, the Contractor shall be deemed to have certified that he has checked the items in the shop drawings before submitting them and that he is satisfied that, in their present state, they not only meet the requirements of the Contract Documents, but will present no difficulties in the performance and completion of the Work. The Contractor shall clearly note his approval on the shop drawings prior to submission to the Owner. Failure of the Contractor to note his approval shall be reason for the Owner to return such submission to the Contractor unchecked.***

1. ***If it appears to the Owner that the shop drawings submitted by the Contractor have not been properly checked, even though the Contractor's approval has been noted thereon, Owner may return such submission to the Contractor unchecked.***
  2. ***Markings, written or otherwise, made by the Contractor or by his suppliers or manufacturers must be made on the Submittal in a color other than red. RED is reserved for the exclusive use of the reviewer in marking Submittals.***
- 4.4. The Contractor shall submit ~~four (4)~~ **two (2)** copies, plus the number of copies desired to be returned, of Shop Drawings or submittals that are required by Section 105 or the Special Provisions. Each submission shall be accompanied by letter of transmittal in duplicate, listing the contents of the submission and identifying each item by reference to specification section or Drawing. The data shown on the Shop Drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show the Owner the materials and equipment the Contractor proposes to provide.
- 4.5. The Contractor shall also submit samples to the Owner for review and approval in accordance with the accepted schedule of submittals. Each sample shall be identified clearly as to material, supplier, pertinent data such as catalog numbers and the use for which intended and otherwise as the Owner may require for review. The review of a separate item or sample will not indicate approval of any assembly in which the separate item or sample functions.
- 4.6. The Contractor is responsible for submitting all Shop Drawings and schedules in a timely manner to avoid delaying the Work. The Owner shall within 21 days after receipt, return Shop Drawings and schedules to the Contractor indicating approval or disapproval.
- 4.7. Review and/or approval of Shop Drawings will be for general conformance with the Contract Documents and shall not relieve the Contractor from the responsibility of furnishing materials and equipment of proper dimension, size, quality, quantity, and all performance characteristics to efficiently perform the requirements and intent of the Contract Documents. Approval shall not be construed as permitting any departure from the Project requirements, authorization of any increase in price, or approval of departures from additional details or instructions previously furnished by the Owner.
- 4.8. Before submitting each Shop Drawing or sample, the Contractor shall have determined and verified:
- A. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto;
  - B. All materials with respect to the intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the work; and

- C. All information relative to the Contractor's sole responsibility in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and progress incident thereto.
- 4.9. Each Shop Drawing and sample submission shall bear a stamp or specific written indication that the Contractor has satisfied Contractor's obligation under the Contract Documents with respect to the Contractor's review and approval of that submission. The Contractor's Shop Drawing stamp shall be as follows (or as otherwise approved by the Owner and Engineer):

<p><i>(Owner's Name)</i>  <i>(Project Name)</i></p> <p>Shop Drawing No.: _____</p> <p>Specification Section: _____</p> <p><i>With respect to this Shop Drawing or Sample, I have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto and reviewed or coordinated this Shop Drawing or Sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.</i></p> <p>_____ <i>No variation from Contract Documents</i></p> <p>_____ <i>Variation from Contract Documents as shown</i></p> <p><i>(Contractor's Name and Address)</i></p> <p>By: _____</p> <p>Date: _____</p>
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- 4.10. The Engineer will review and approve or disapprove or return as incomplete Shop Drawings and samples in accordance with the schedule of submittals submissions accepted by the Engineer. The Engineer's review and approval or disapproval will not extend to means, methods, techniques, sequences or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The Contractor shall make corrections required by the Engineer, and shall return the requested number of copies of Shop Drawings and samples for review and approval. The Contractor shall direct specific attention in writing to revisions other than the corrections called for by the Engineer on previous submittals. Upon approval, two marked copies will be returned to the Contractor.
- 4.11. No progress payments will be made to the Contractor until the schedules are submitted to and acceptable to the Engineer. The progress schedule shall be acceptable to the Engineer as being the Contractor's schedule for the orderly progression of the Work to completion within any specified Contract Times, but such acceptance will neither impose on the Engineer responsibility for the sequencing, scheduling or progress of the Work nor interfere with or relieve the Contractor from the Contractor's full responsibility therefor.



- 4.12. The Engineer will record time required by the Engineer or Engineer's consultants for excessive submittal review occasioned by the Contractor's re-submission, in excess of one re-submission of a required submittal, caused by unverified, unchecked or un-reviewed, incomplete, inaccurate or erroneous, or nonconforming submittals. The Engineer's costs will be an estimated average billing rate for labor plus related expenses.
- 4.13. Within ten (10) days after the Effective Date of the Agreement, the Contractor shall submit to the Engineer for approval a schedule listing the manufacturer of the items of equipment and materials proposed for the construction. Following approval of the schedule, no changes in material or equipment from those listed will be allowed except in unusual or extenuating circumstances. When such circumstances arise, the Contractor shall request, in writing, the Owner's approval of the proposed change, stating the circumstances necessitating such a change. The intent of this schedule is to name the manufacturers of material specified by a product standard and to designate which manufacturer will be used when more than one has been named for an item. The schedule shall not be interpreted as allowing any change from base Bid items or those substitute items offered with the Bid and accepted in the Agreement.
- 4.14. *Submittals shall be made in logical groupings representing all submittals from a technical specification section and/or, where appropriate, related section(s). Shop drawing submissions lacking all required submittals under a technical specification section(s) will be returned without review.*
- 4.15. *The approval of shop drawings shall not relieve the Contractor from the responsibility for proper fittings and construction of the Work nor from furnishing materials and work required by the Contract which may not be indicated on the shop drawings when approved.*
- 4.16. *Where a shop drawing or sample is required by the Specifications, and related work is performed prior to the Owner's review and approval of the pertinent submission, such work will be the sole responsibility of the Contractor. Owner shall have the right to inspect any such Work, but failure of Owner to inspect such Work shall not be deemed an acceptance by the Owner.*
- 4.17. *In proposing alternate materials or construction methods or in requesting Owner determination of alternate materials, submittals must clearly demonstrate that the proposed alternate items clearly meet, in all respects, the requirements of the Contract Documents and the design intent of the Project, and offer finished product superiority and/or cost savings to the Owner. The burden of proof in all such determinations is up to the Contractor, and the Owner's determination is unreviewable and final. All such proposals count as submittals in determining the cost of additional reviews in accordance with paragraph 4.12 above.*
- 4.18. *Manufacturer's Certificates*
- A. *The Contractor shall furnish, at the time of submitting Shop Drawings, the manufacturer's certificates for items of equipment and products in the various sections of these Specifications.*
- B. *The manufacturer's warranty and certification submitted for equipment, a product, or component of a product shall indicate that the manufacturer has examined the Contract Documents and determined that the equipment, product, or component of a product*

*provided will meet the performance criteria and conforms in all respects to the requirements of the Contract Documents.*

- C. *A statement originating from the Contractor, or any of his Subcontractors, suppliers, or any other agent, which merely indicates that a particular item of equipment, product, or component of a product meets the requirements of the Contract Documents, shall not be considered a certificate. Any such submittal made in this manner will not be approved, and the corresponding equipment, product, or component of a product shall not be finally accepted.*

## V. RECORD DRAWINGS

- 5.1 The Contractor shall keep one record copy of all Special Provisions, Specifications, Drawings, Addenda, Written Amendments, Change Orders, Shop Drawings, Owner-approved submittals, and samples at the site in good order and annotated to show all changes made during the construction process. These documents shall be available to the Owner for examination and shall be submitted to the Owner upon completion of the Work. As-built information (including dimensions, materials, existing utilities) shall also be included on the Drawings. Progress payments may be withheld for failure to keep neat, accurate and complete record drawings.
- 5.2 The Contractor shall include any field changes, deviations from the Drawings due both to field conditions and Change Orders.
- 5.3 Record information for projects shall include the following as a minimum:
- A. Size, horizontal and vertical location of all existing utilities uncovered during the course of the work. This shall include telephone cables and conduits, TV cables and conduits, electrical cables and conduits, gas lines, water line, sewer force mains, sanitary sewers, storm sewers and the like.
  - B. Horizontal and vertical location of the water, force main, sanitary and storm sewer installed ~~at every 100 foot station~~, at interconnections, and at fittings, tees, bends and offsets. The frequency and location of survey shots will match the proposed grade elevations shown on the Drawings.
  - C. Location of lines plugged or capped, blowoffs, and air vents.
  - D. Location of all restraining devices used; for example, thrust blocks, retainer glands, tie rods, etc.
  - E. Location of all valves, ends of all lines and other fittings shall be accurately located by triangulation from two permanent structures, which will be visible on the ground surface.
  - F. Location and size of all taps and service line connections made, including corporation stops (if any) used for testing purposes.
  - G. Size (if greater than ¾"), material, depth and location of both ends of the water service lines are required.
  - H. Rim elevations of manholes and invert elevations of pipes entering and exiting the manhole.

- I. Size, material, depth and location of sewer laterals including:
    - 1. Measurements taken from the nearest downstream manhole, then measure over perpendicular from that point on the main to the end of the lateral. All measurements are taken from the center of the manhole cover.
    - 2. If lateral comes out of a manhole in a cul-de-sac; triangulation from that manhole will be required.
    - 3. Measured depth from the finished grade at the end of the lateral.
  
  - J. Information required for public storm drain systems:
    - 1. Size, material and location of all storm sewer lines.
    - 2. Elevations shall be provided for all ditch, pipe and structure inverts and rims.
  
  - K. ***The Contractor shall provide, on the record drawings, coordinate values (northings and eastings based on York County, Virginia, monumentation) for gravity sewer cleanouts.***
- 5.4 The Record Drawings shall include the following minimum accuracy for survey measurements and field measurements.
- A. Horizontal accuracy:
    - 1. Both surface and subsurface gravity sanitary sewer systems shall be measured in a survey to +/- 1.0 foot at the structure location.
    - 2. Both surface and subsurface pressure systems shall be measured in a survey to +/- 1.0 foot at the structure location.
    - 3. Curb/curb and gutter shall be measured in a survey to +/- 1.0 foot at high points, low points, curb returns, and various other positions following good engineering, construction and surveying practices.
    - 4. Storm Water Management Facilities (SWMF) shall be measured in a survey to +/- 1.0 foot, including the top of bank, bottom of bank, edge of water, pipes, structures, and setback distances to property lines and/or right-of-way lines and any unusual feature of each SWMF.
    - 5. Utility system components including, but not limited to, fire hydrants, meter vaults, meter boxes, water services, corporation stops, fittings, thrust restraint, laterals, cleanouts, valves, blowoff assemblies, air vent assemblies, water sampling stations, etc. shall be measured in a survey to +/- 1.0 foot.
    - 6. Project landscaping shall be measured in a survey to +/- 1.0 foot. Only large significant features, such as trees, will be surveyed. The species and caliper (size) shall be noted.

7. Street signs and light poles shall be measured in a survey to +/- 1.0 foot.

B. Vertical accuracy:

	Survey Accuracy	Field Measurement
Manhole Rim	+/- 0.01 ft.	
Manhole Invert	+/- 0.01 ft.	
Gravity Sewer Slope	+/- 0.02%	
Valve Depth	+/- 0.1 ft.	
Pressure/vacuum systems	+/-0.05 ft.	
SWMF	+/- 0.01 ft.	
Curb/curb and gutter	+/- 0.01 ft.	
Offset		+/- 1.0 ft.
Lateral Depth		+/- 0.25 ft.

5.5 Record Drawings shall be provided in an electronic format acceptable to the Owner.

**VI. ACCESS TO PROJECT**

6.1. The Owner, the Owner’s Representatives, the Engineer, testing agencies and governmental agencies with jurisdictional interests shall have access to the Project at all times for their observations, inspecting, and testing. The Contractor shall provide proper and safe conditions for such access.

**VII. SURVEYS AND REFERENCE POINTS**

7.1. The Owner shall furnish all necessary Drawings showing property lines and/or easements and the location of the Work. The Contractor shall provide a land surveyor licensed in the Commonwealth of Virginia to execute the Work in accordance with the Contract Documents and shall be responsible for the accuracy of this Work.

7.2. The Owner has established or will establish such general reference and control points and benchmarks on or about the Project site as will enable the Contractor to proceed with the Work. Prior to issuance of the Notice to Proceed, if the Contractor finds that any previously established reference points have been destroyed or misplaced, the Contractor shall promptly notify the Owner, and the Owner shall replace such general reference points and benchmarks at the Owner’s expense.

7.3. The Contractor shall protect and preserve the established control points, bench marks and monuments and shall make no changes in locations without the written approval of the Owner. 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 approval of the Owner, be replaced and accurately located by the Contractor, at no expense to the Owner.

**VIII. WORKING HOURS**

8.1. Normal working hours shall be 7:00 a.m. to 5:00 p.m., Monday through Friday, except that Work shall not start any earlier than one-half hour after sunrise or continue beyond one-half hour prior to sunset. If the Contractor desires to perform Work outside the normal working hours, on Holidays, or on weekends, the Contractor shall request permission, in writing, 48-hours in advance to allow arrangements to be made. The Contractor may be charged an inspection fee by the Owner if such



work is approved. Where the Owner specifically directs the Contractor to work outside of normal working hours, no inspection fee will be imposed. The Owner may refuse the Contractor permission to work outside the normal working hours. ***There shall be no work on Sundays, except for emergency situations.*** The Contractor shall make reasonable efforts to avoid undue noise during the night and on weekends, including, but not limited to, fireproof covering necessary to dampen excessive noise from engines or pumps which operate before 7:00 a.m. and after 9:00 p.m., if it is necessary to work at those times.

- 8.2. The Contractor shall designate a representative and furnish a telephone number at which the representative may be contacted at any time after working hours. This representative shall be empowered and authorized to provide such personnel and equipment as may be required to remedy emergency situations that may develop after normal working hours, or on weekends and holidays.
- 8.3. The Contractor shall receive approval of the Owner, in advance, of any work to be performed on holidays. The Owner reserves the right to deny permission to work on ~~Sundays~~ **Saturdays** and/or holidays without cause.

Holidays are as listed below:

New Year's Day	1 <sup>st</sup> day of January
Martin Luther King's Birthday	3 <sup>rd</sup> Monday in January
President's Day	3 <sup>rd</sup> Monday in February
Memorial Day	Last Monday in May
Independence Day	4 <sup>th</sup> day in July
Labor Day	1 <sup>st</sup> Monday in September
<b><i>Yorktown Day</i></b>	<b><i>19<sup>th</sup> day of October</i></b>
Veteran's Day	11 <sup>th</sup> day of November
Thanksgiving Day	4 <sup>th</sup> Thursday in November
Day after Thanksgiving	Friday after 4 <sup>th</sup> Thursday in November
Christmas Eve	24 <sup>th</sup> day of December
Christmas Day	25 <sup>th</sup> day of December
<b><i>New Year's Eve</i></b>	<b><i>31<sup>st</sup> day of December</i></b>

If January 1, July 4, ***Yorktown Day***, Veterans' Day, or Christmas fall on a Sunday, the following Monday shall be considered the Holiday. If these dates fall on a Saturday, the previous Friday shall be considered the Holiday. ***If any part of a two-day holiday (i.e. Christmas Eve and Christmas Day, New Year's Eve and New Year's Day) falls on a weekend day, the observance of the holidays shall be scheduled at the Owner's discretion in such a way as to result in a four-day weekend.***

The Contractor's attention is called to Section ~~109-1.5.C.1.d.~~ **109-1.6.C.1.d.** regarding Owner compensation by the Contractor for overtime work performed outside normal working hours.

**IX. PROJECT COORDINATION**

9.1 Coordination with Owner

- A. The Contractor shall coordinate all construction activities with the Owner and shall obtain the Owner's approval as to schedule of Work, permits, temporary work, and traffic control.



- B. Progress meetings shall be held monthly on a date to be set by the Owner. The Contractor shall be present at all progress meetings. If progress is not made as scheduled, or if the Owner desires to discuss revised progress schedules or the quality of workmanship or other aspects of the work, additional progress meetings can be required.
- C. The Owner may construct or reconstruct any utility service in the highway or street or grant a permit for the same at any time. The Contractor shall not be entitled to any damages occasioned thereby other than a consideration of an extension of time.
- D. When authorized by the Owner, the Contractor shall allow any person, firm, or corporation to make an opening within the limits of the Project upon presentation of a duly executed permit from the Owner. When directed by the Owner, the Contractor shall satisfactorily repair portions of the Work disturbed by the openings. The necessary Work will be paid for as extra Work in accordance with these specifications and shall be subject to the same conditions as the original Work performed.

## 9.2 Coordination with Utilities

- A. The Owner and Contractor agree that disruption to public services shall be avoided whenever possible and minimized when it is not avoidable. In cases where the disruption of existing facilities could adversely impact public service delivery, acceptable duration(s) and time(s) of the outages shall be coordinated between the Contractor and Owner, so as to explicitly minimize disruption to public service delivery.
- B. Before the initiation of any excavation, the Contractor shall locate all existing utilities, culverts, and other structures. Work shall be coordinated with affected utility companies. Prior to excavation, the Contractor shall contact MISS UTILITY at (800) 552-7001 and comply with all MISS UTILITY requirements.
- C. All existing utilities, both public and private (including sewer, gas, water, electrical services, etc.), shall be protected and their operation shall be maintained throughout the course of the Work. Any temporary shutdown of an existing service shall be arranged by the Contractor between the Contractor and the responsible agency. The Contractor shall assume full responsibility and defend and hold the Owner harmless from the result of any damage that may occur as a result of the Contractor's activities.
- D. If any utility service is interrupted as a result of accidental breakage or of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the authority in the restoration of service. If utility service is interrupted, repair work shall be continuous until service is restored. The Contractor shall be responsible for any damage to utilities that are attributable to his neglect or methods of performing the work.
- E. The Owner shall provide Utility companies with copies of the construction plans and or scope of work prior to construction. If requested by the Owner, the Contractor shall provide each affected utility company with a copy of the proposed schedule of progress prior to commencing work.
- F. Existing facilities (such as water and sewer valves) shall be operated only by the facility owner or under the direct supervision of the facility owner's personnel. The Contractor shall

inform the owner at least 48-hours in advance of the need for the operation of existing facilities.

- G. At points where the Contractor's operations are adjacent to the properties of any utility, including railroads, and damage to which might result in considerable expense, loss, or inconvenience, Work shall not commence until arrangements necessary for the protection thereof have been completed.
- H. The Contractor shall cooperate with owners of utilities so that location, removal and adjustment operations may progress in a reasonable manner; duplication of adjustment work may be reduced to a minimum; and, services rendered by those parties will not be unnecessarily interrupted.
- I. The Contractor should be aware that in some instances buried cables, gas lines, water lines, etc., two inches and smaller in diameter may have to be excavated by hand and slightly relocated to facilitate construction of the Work under this contract. This shall be considered incidental to the Work, and shall be performed at no additional cost to the Owner.
- J. Should the location of any pipe or conduit greater than two-inches in diameter, pole, or other structures, above or below the ground be such that in the opinion of the Owner or his representative its removal, realignment, or change will be required due to work to be performed under this Contract, the removal, realignment, or change will be done as a Change Order, or will be done by the Owner of the obstructions, without cost to the Contractor. The Contractor shall maintain at his own expense the structures until such removal and before and after such realignment or change. The Contractor shall not be entitled to any claim for damages or extra compensation because of the presence of said structure, or because of any delay in the removal or relocation of the same.

## **X. SUPERVISION**

- 10.1. The Contractor shall supervise and direct the Work, and shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor shall employ and maintain on the Project a qualified supervisor who shall have been designated in writing by the Contractor as the Contractor's representative at the site. The supervisor shall have full authority to act on behalf of the Contractor and all communications given to the supervisor shall be the same as if mailed to the business address of the Contractor. The supervisor or a designated representative shall be present on the site at all times as required to perform adequate supervision and coordination of the Work. The Contractor shall notify the Owner in writing prior to any change of supervisor, and receive the Owner's approval for the replacement.
- 10.2. Upon notification to the Contractor, the Owner reserves the right to suspend the Work until such time as a supervisor satisfactory to the Owner is assigned to the project. Contract Time shall not be extended for such suspension nor shall the Contractor be entitled to any additional payment of any kind whatsoever as a result of such suspended work.
- 10.3. Any employee of the Contractor or Subcontractor who is deemed unsuitable may be removed from the job site by the Owner, provided that Written Notice and just cause is given to the Contractor. Said employee shall be removed immediately upon receipt of said Notice.

## **XI. UNCOVERING WORK**

- 11.1. If any work has been covered or concealed without the Owner's approval prior to being covered or concealed, the Owner may request to see such work and it shall be exposed by the Contractor. The Contractor shall pay the cost of opening or uncovering and replacement and shall, in addition, at no cost to the Owner, make the necessary corrections to bring the work into accord with the Contract Documents.
- 11.2. Uncovering work shall be at the Contractor's expense unless the Contractor has given the Owner timely notice of the Contractor's intention to cover the same and the Owner has not acted with reasonable promptness in response to such notice.
- 11.3. If the Owner considers it necessary or advisable that covered Work previously approved be re-inspected or tested by others, the Contractor, at the Owner's request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Owner may require, that portion of the Work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such Work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation inspection and testing and of satisfactory reconstruction. If, however, such Work is not found to be defective, the Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time or both directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate Change Order shall be issued.

## **XII. REMOVAL OF UNACCEPTABLE WORK**

- 12.1. All Work that does not conform to the requirements of the Contract Documents shall be unacceptable.
- 12.2. The Contractor shall remove or correct all unacceptable and defective Work or materials. The replacement of Work and materials shall conform to the Contract Documents or be in a manner acceptable to the Owner. The Contractor shall bear all costs of such correction and/or removal and replacement.
- 12.3. Work done contrary to or regardless of the instructions of the Owner, Work done beyond the lines shown or as directed, except as herein provided, or any extra Work done without authority, will be considered unauthorized and will not be paid for under the provisions of the Agreement. Work so done may be ordered removed or replaced at no cost to the Owner.
- 12.4. If the Work is defective, or the Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, the Owner may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any surety or other party. If the Contractor does not remedy, remove, or replace the rejected or condemned Work as instructed by the Owner within the time period stated by the Owner but in no case to exceed 30 Days after receiving written Notice, such remedy, removal, or replacement may be accomplished by the Owner at the Contractor's expense.

### **XIII. SUBSTANTIAL COMPLETION**

- 13.1. Prior to Final Payment, but following completion of all required tests and inspections, the Contractor may request in writing that the Owner certify that the entire Project or any phase of the Project is Substantially Complete and request the Owner issue a Certificate of Substantial Completion. Within fourteen (14) working days the Owner will conduct an inspection of the Project with the Contractor and either issue a Certificate of Substantial Completion or notify the Contractor in writing of the incomplete items. The Certificate and attachments shall include the following:
- A. A listing of responsibilities for the security, operation, safety, maintenance, utilities and insurance on the substantially completed portion;
  - B. A tentative list of items to be completed or corrected prior to final payment; and,
  - C. The maximum time for items to be completed or corrected prior to final payment.
- 13.2. The Owner shall have the right to exclude the Contractor from the Project or phase of the Work certified to be Substantially Complete; however, the Owner will allow the Contractor reasonable access to complete or correct the Work.

### **XIV. USE OF COMPLETED PORTIONS**

- 14.1. The Owner shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding that the time for completing the entire Work or such portions may not have expired, but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays the Work, the Contractor shall be entitled to such extra compensation or extension of time or both as the Owner and the Contractor may agree.

### **XV. FINAL INSPECTION**

- 15.1. Upon receiving written Notice from the Contractor that the entire Work or an agreed upon portion is complete, the Owner will make a final inspection with the Contractor, and will notify the Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. The Contractor shall immediately take such measures as are necessary to complete such work or remedy such deficiencies.
- 15.2. This procedure shall be repeated until all items are corrected to the satisfaction of the Owner. Only written notification to the Contractor from the Owner will constitute final acceptance of any part of the Work under the Agreement.

### **XVI. CLAIMS**

- 16.1. All claims, disputes, demands and other matters in question arising out of or relating to the Agreement or the Contract Documents, except for claims which have been waived by the Contractor's acceptance of final payment, will be addressed in accordance with the provisions of the Virginia Public Procurement Act and as stated herein; provided, however, the provisions of Section 2.2-4366 of that Act will not be applicable without the separate express written consent of the Owner.

16.2. Early or prior knowledge by the Owner of an existing or impending claim for damages could alter the plans, scheduling, or other action of the Owner or result in mitigation or elimination of the effect of the act objected to by the Contractor. Therefore, a written statement describing the act of omission or commission by the Owner or its agents that allegedly caused damage to the Contractor and the nature of the claimed damage shall be submitted to the Owner at the time of occurrence or beginning of the Work upon which the claim and subsequent action are based. If such damage is deemed certain in the opinion of the Contractor to result from his acting on an order from the Owner, he shall immediately take written exception to the order. Submission of a notice of claim as specified shall be mandatory. Failure to submit such notice shall be a conclusive waiver to such claim for damages by the Contractor. An oral notice or statement will not be sufficient nor will a notice or statement after the event.

If the Contractor's claim contains data that cannot be verified by the Owner's records, the data shall be subject to a complete audit by the Owner or its authorized representative if they are to be used as a basis for claim settlement.

If the Contractor wishes to make claim for an increase in the Contract Price or Contract Time, he shall submit all supporting data to the Owner and Engineer within twenty (20) Days from the time of initial occurrence *of the event giving rise to the claim*. Failure to submit such data within twenty (20) Days shall be a conclusive waiver to such claim by the Contractor.

16.3 All Claims, disputes, and other matters relating to or arising out of the Agreement or the Contract Documents pertaining to the performance of the Work and claims in respect to changes in the Contract Price or Contract times shall be submitted to the Owner and Engineer in writing. Written Notice of each such claim, dispute or other matter shall be delivered by the Contractor to the Engineer and the Owner promptly (but in no event later than twenty (20) days) after the start of the occurrence or event giving rise thereto, and written supporting data shall be submitted to the Engineer and the Owner promptly, (but not later than twenty (20) days) after the start of such occurrence or event and monthly thereafter for continuing events unless the Owner and Contractor mutually agree to extend the time required to submit the written Notice to allow for the submission of additional accurate data in support of such claim, dispute or other matter. The Owner shall submit any response to the Engineer and the Contractor within twenty (20) days after receipt of the Contractor's last submittal (unless the Owner requests reasonable additional time to evaluate the claim).

The Engineer shall render a non-binding and non-final written recommendation regarding the manner in which to resolve the dispute within twenty (20) days of receipt of the Owner's response. Engineer's written recommendation shall be used to assist the Owner and Contractor towards the expeditious and amicable resolution of their dispute.

Within ten (10) days of the delivery of Engineer's written recommendation, senior representatives of the Owner and the Contractor, having authority to settle the dispute, and the Engineer, shall meet at a mutually acceptable time and place, and thereafter as often as they reasonably deem necessary, to exchange relevant information and to exercise their reasonable and good faith efforts to expeditiously resolve the dispute. The Owner's and Contractor's representatives will participate in good faith during the negotiation and will each have authority to approve changes in the Contract Time and Price, if any.

In the event a mutually acceptable agreement cannot be reached through negotiation within twenty (20) days of the delivery of Engineer's written recommendation, (or mutually agreeable longer

period), or if either party will not meet within ten (10) days of the delivery of said written recommendation, the Owner or Contractor may declare, by written Notice, delivered to the other party and to the Engineer, that the negotiation was unsuccessful. If Owner chooses non-binding mediation, it shall be a condition precedent to the institution of any further administrative, legal or equitable proceedings by either party.

In the event that the negotiation process is unsuccessful and upon the Owner's request that the parties participate in non-binding mediation, the parties shall endeavor to agree to a single mediator to mediate the dispute in a session not to exceed one-half day in length, unless extended by the agreement of both parties. If the parties cannot agree on a single mediator, they shall request the chief judge of the local state circuit court to designate a mediator. Unless the parties mutually agree otherwise, the mediation shall occur within ten (10) days of the mediator's selection. The costs of the mediation shall be paid by the parties on a pro rata basis.

The results of successful mediation will be implemented by a Change Order. Should the mediation be unsuccessful, it shall be terminated by written Notice to all involved by the mediator or Owner or Contractor.

In the event that the Owner does not elect mediation or the mediation is unsuccessful, A formal proceeding may then be instituted by either party in a forum of competent jurisdiction within the Owner's locality. The parties' Agreement, Contract Documents, and their performance obligations shall be governed, interpreted and enforced pursuant to the laws and regulations of the Owner's locality, and in accordance with the laws of the Commonwealth of Virginia without regard to the conflicts of law principles thereof.

All disputes arising out of or relating to this Agreement, the Contract Documents, or the performance obligations of the parties shall be brought in the Circuit Court or Federal Court in Virginia having jurisdiction over the location where the Work will be or has been performed. The Agreement and the Contract Documents shall be governed by, enforced and interpreted pursuant to the laws of the Commonwealth of Virginia without regard to conflicts of law principles.

- 16.5. The Contractor shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with the Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as the Owner and the Contractor may otherwise agree in writing.

## **XVII. ENGINEER'S STATUS**

- 17.1. All Work shall be performed under the general observation of the Engineer (if specified in the Special Provisions, otherwise, the Owner shall serve as the Engineer at its discretion). The Contractor shall carry out the Work in accordance with the Contract Documents. The construction means, methods, techniques, sequences of procedures, and safety precautions and programs in connection with the Work shall be at the direction and the responsibility of the Contractor. The Engineer shall have authority to and shall reject any and all Work whenever it is necessary to do so in order to insure the proper execution of the Work in accordance with the Contract Documents. The Engineer shall have no authority to approve or order changes in the Work that alter the terms or conditions of the Agreement. The Owner shall confirm by written Notice within fourteen (14) calendar Days any oral order, direction, requirement or determination.

- 17.2. In case of the termination of the employment of the Engineer, the Owner may appoint a capable and reputable Engineer as a replacement. The status under the Agreement of the Engineer shall be that of the former Engineer.
- 17.3. Approval by the Engineer of any materials, plans, equipment or drawings proposed by the Contractor, shall be construed only to constitute an approval of general design. Such approval shall not relieve the Contractor for any responsibility for the accurate and complete performance of the work in accordance with Contract Documents, or from any duty, obligation, performance guarantee or other liability imposed upon him by the provisions of the Agreement.

## **XVIII. DOCUMENTATION OF PRECONSTRUCTION CONDITIONS**

- 18.1. The Contractor may be required to accompany the Owner for an on-site review of the project after award, but prior to the pre-construction conference and issuance of the Notice to Proceed. The purpose of the on-site review will be to compile a property report that will list, according to the following categories, the properties affected by construction as determined mutually by the Contractor and the Owner, or his representative.
- A. Unrestrained access to and from residences and business locations. This includes but is not limited to, the following types of scheduled projects:
1. Street repair (non-emergency) or improvement projects.
  2. Utilities repair (non-emergency) or improvement projects.
  3. Sidewalk repair (non-emergency) or improvement projects.
- B. Right to enjoy one's residence or business free of disturbing and unusual environmental changes as a result of an Owner-authorized construction project. Examples of such changes are excessive noise, dust, light, as well as unusual working hours and odors. This includes, but is not limited to, projects such as:
1. Drainage repair (non-emergency) or improvement projects.
  2. Sewage repair (non-emergency) or improvement projects.
- C. The right to properly plan for the relocation of one's personal property which must be moved as a result of an Owner-authorized construction project. This includes, but is not limited to, the following:
1. Trees, shrubs, plants and flowers.
  2. Play equipment.
  3. Portable buildings.
  4. Fences (above grade or underground electric pet containment).
  5. Automobiles.

The property report is to remain on file with the Owner and the Contractor until project closeout.

## **XIX. NOTICE TO COMPLY ORDER**

*See page 105-4517.*

**XX. STOP WORK ORDER**  
*See page 105-1618.*

End of Section

CITY/COUNTY OF \_\_\_\_\_

# NOTICE TO COMPLY

Department of \_\_\_\_\_

Pursuant to Section \_\_\_\_\_ of the Code of the City/County of \_\_\_\_\_, Virginia, as amended, a City Manager/County Administrator Designee inspected your site at \_\_\_\_\_ on \_\_\_\_\_, 20\_\_\_\_ at \_\_\_\_\_ a.m. / p.m.

The following conditions of noncompliance were noted:

- SILT FENCE DOWN
- DISTURBED AREAS NOT STABILIZED
- SEDIMENT TRAPPING DEVICES NOT INSTALLED PROPERLY
- TRACKING ON PUBLIC ROAD
- OTHER: \_\_\_\_\_  
\_\_\_\_\_

The following corrective measures are needed to bring you into compliance:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

These measures are to be completed before \_\_\_\_\_, 20\_\_\_\_.

Notice ordered by \_\_\_\_\_, on \_\_\_\_\_, 20\_\_\_\_.  
(Designee of City Manager/County Administrator)

Hand Delivered \_\_\_\_\_ Certified Mail \_\_\_\_\_

If you have any questions, please call \_\_\_\_\_.  
(Telephone number)

CITY/COUNTY OF \_\_\_\_\_

# STOP WORK ORDER

Permit Number \_\_\_\_\_

Date \_\_\_\_\_

Department of \_\_\_\_\_

Pursuant to Section \_\_\_\_\_ of the Code of the  
City/County of \_\_\_\_\_, Virginia, as amended, a substantial  
Code violation exists at \_\_\_\_\_. You are  
hereby notified that further work at this location must be

## IMMEDIATELY DISCONTINUED

Corrective Measures Required:

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

Ordered by: \_\_\_\_\_, on \_\_\_\_\_, 20\_\_\_\_.  
(Designee of City Manager/County Administrator)

Notice served to \_\_\_\_\_, on \_\_\_\_\_, 20\_\_\_\_.

Stop Work Order in Effect Until \_\_\_\_\_

\_\_\_\_\_  
(Signature of Enforcement Officer)

## SECTION 106

### CONTROL OF MATERIAL

#### I. TESTS AND INSPECTIONS

- 1.1. All material and workmanship shall be subject to inspection, examination and test by the Owner at any time during manufacture and/or construction. The Owner shall have the right to reject defective material and workmanship or require their correction.
- 1.2. The Contractor shall provide at its expense the testing and inspection services required by the Contract Documents. The Owner will provide at his expense all inspection and testing services not required by the Contract Documents; provided, however, the Contractor will be responsible for the payment of all failing tests.
- 1.3. The Contractor shall furnish promptly without additional charge all reasonable facilities, labor, and materials, necessary and convenient for making such tests as may be designated in the Contract Documents. The Contractor shall work with the Owner and the Engineer in scheduling and coordinating Owner provided testing or inspection services.
- 1.4. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public body having jurisdiction require any Work (or part thereto) specifically to be inspected, tested, or approved by someone other than the Owner, the Contractor shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, pay all costs in connection therewith, and furnish the Owner the required certificates of inspection, or approval. The Contractor shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for the Owner's acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to the Contractor's purchase thereof for incorporation in the Work.
- 1.5. Inspections, tests or approvals by the Owner shall not relieve the Contractor from its obligations to perform the Work in accordance with the requirements of the Contract Documents.
- 1.6. The failure of the Owner to reject or condemn materials and workmanship not conforming to the Contract Documents shall not prevent the Owner from rejecting materials and workmanship found not to be in accordance with the Contract Documents at any time prior to the acceptance of the completed Work, nor shall it be considered as a waiver of any nonconformance with the Contract Documents which may be discovered later, or as preventing the Owner at any time prior to the expiration of the guarantee period or of the expiration of any applicable statutory limitation period for legal actions for Contractor default from recovering damages for work not in accordance with the Contract Documents.

#### II. LABOR, MATERIALS AND EQUIPMENT

- 2.1. The Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. The Contractor shall at all times maintain good discipline and order at the site.

- 2.2. Unless otherwise specified, the Contractor shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all facilities and incidentals necessary for the furnishing, performance, testing, start-up, and completion of the Work.
- 2.3. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by the Owner, the Contractor shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents.
- 2.4. It shall be the responsibility of the Contractor to legally dispose of all excess material at his expense unless otherwise indicated on the Drawings and/or noted in the Specifications.
- 2.5. No material that is not required for the Work on this Project may be stored on site or within the Project boundaries or on land designated for Project use, unless approved by the Owner in writing prior to placement.

### **III. WORK BY OWNER**

- 3.1. The Owner may perform other work related to the Project at the site by the Owner's own forces, have other work performed by utility owners, or let other direct contracts for Work at the site. If the fact that such other work is to be performed was not noted in the Contract Documents, Written Notice will be given to the Contractor prior to starting any such other work.

End of Section

## SECTION 107

### LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

#### I. PERMITS AND REGULATIONS

- 1.1. The Contractor shall procure all permits and licenses pay all charges, fees, and taxes and give all notices necessary and incidental to the due and lawful prosecution of the Work except those provided by the Owner, ~~and specified in the Special Provisions.~~ *The Owner shall obtain the following permits: VDOT CE7 permit and VA LDA permit.*
- 1.2. The Contractor shall be fully responsible for knowledge of and shall abide by each and every law, rule or regulation of all public bodies having political jurisdiction over the Project and in force at the time of the Contract; including, the safety of persons or property and the protection of persons and property from damage, injury or loss. The Contractor shall erect and maintain all necessary safeguards for such safety and protection and hold harmless the Owner and its agents, officers, or employees against any claim for liability arising from or based on any violation, whether by himself, his agents, his employees or subcontractors. If the Contractor observes that the Contract Documents are at variance with any such law, he shall promptly notify the Owner in writing. The Contractor shall execute and file the documents, statements, and affidavits required under any applicable federal or state law or regulation affecting his Bid or Agreement or prosecution of the Work thereunder. The Contractor shall permit examination of any records made subject to such examination by any federal or state law or by regulations promulgated thereunder by any state or federal agency charged with enforcement of such law. The Contractor shall not be entitled to claim any damages for delay occasioned by compliance with such laws. Where such laws are changed during the course of the Agreement, and where such changes create additional costs to the Agreement or affect the time of the Agreement, such changes shall be made effective through Change Orders prepared in accordance with the Contract Documents.
- 1.3. The Contractor shall comply fully with the U.S. Department of Labor Safety and Health Regulation promulgated under the Occupational Safety and Health Act of 1970, as amended, and under Section 107 of the Contract Work Hours and Safety Standards Act, as amended. The Contractor shall also comply fully with the Overhead High Voltage Act as set forth in Chapter 30, Title 59.1 of the Code of Virginia; Subpart P - "Elevations, Trenching and Shoring", of the Virginia Occupational Safety and Health Standards for Construction Industry; the Virginia Confined Space Standard 1910.146 of the Virginia Occupational Safety and Health Standards for General Industry; and the "Underground Utility Damage Prevention Act" as set forth in Chapter 10.3, Title 56 of the Code of Virginia, 1950, as amended. The above listing of safety laws and regulations is for informational purposes and in no way alters or limits Contractor's responsibility to comply with the safety laws of all public bodies having jurisdiction as set forth in Section 107-1.2 above.

#### II. LAND, EASEMENTS, AND RIGHTS-OF-WAY

- 2.1. Prior to issuance of Notice to Proceed, the Owner shall obtain all land, easements, and rights-of-way necessary for carrying out and for the completion of the work to be performed and pursuant to the Contract Documents, unless otherwise specified herein or otherwise mutually agreed. A land surveyor licensed in the Commonwealth of Virginia must perform the layout. Easements for

temporary uses and detours requested by the Contractor and approved by the Owner in lieu of a detour within the right of way or easement area shall be acquired by the Contractor without the Owner being a party to the Agreement.

- 2.2. The Owner shall provide to the Contractor information that delineates and describes the lands owned, rights-of-way, or easements acquired, and permits obtained.
- 2.3. The Contractor shall provide at its own expense and without liability to the Owner any additional land and access thereto that the Contractor may desire for temporary construction facilities, or for storage of materials. The Contractor shall not use private property in connection with the Work unless prior written permission is obtained from the property owner. A copy of the written permission indicating the name, address, and phone number of the property owner shall be furnished to the Owner. Upon completion of the use of the property, the Contractor shall also furnish the Owner a release signed by the property owner indicating that the property has been satisfactorily restored.
- 2.4. The Contractor shall acquire all necessary and appropriate Permit(s) from the locality, VDOT, or both, for entrance(s) to off-site storage or lay-down yard(s) and shall abide by all conditions required by the Permit. The Contractor shall be solely responsible for all costs incurred in acquiring the Permit and all costs associated with the efforts necessary to comply to Permit requirements.

The Contractor shall utilize the most direct means of access to the Work area and shall not access the Work area through adjacent neighborhoods, parking areas, etc. Any and all damages to adjacent areas resulting from the Contractor's activities shall be the sole responsibility of the contractor and shall be repaired at the Contractor's expense, to the complete satisfaction of the Owner, locality/VDOT, and the affected property owner(s).

### **III. PROTECTION OF WORK, PROPERTY & PERSONS**

- 3.1. The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to all employees on the Work and other persons who may be affected thereby, all the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction. The Contractor shall provide and maintain all necessary watchmen, barricades, lights, and warning signs, and take all necessary precautions for the protection and safety of the public.
- 3.2. The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. The Contractor shall erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection, and shall notify owners of adjacent utilities when prosecution of the Work may affect them. The Contractor shall remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any Subcontractor, or anyone for whose acts any of them will be liable.
- 3.3. The Contractor shall designate a responsible member of its organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise

designated in writing by the Contractor to the Owner.

- 3.4 In accordance with generally accepted construction practices, and the requirements of OSHA, the Contractor shall be solely and completely responsible for conditions of the Project site. This requirement shall apply continuously and not be limited to normal working hours. The Contractor shall comply with Federal and State safety regulations, at the site of the Work and provide such equipment and medical facilities as necessary to supply first aid service to anyone who may be injured. The Contractor shall promptly report in writing to the Owner all accidents whatsoever arising out of, or in connection with, the performance of the Work whether on, or adjacent to, the site and which caused death, personal injury or property damages, giving full details and statement of witnesses. In addition, if death or serious injuries or serious damages are caused, the accidents shall be reported immediately to both the Engineer and the Owner. If any claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts, in writing, to the Owner.
- 3.5 Until final acceptance of the Work by the Owner, the Contractor shall have charge and care thereof and shall take every precaution against damage to the Work or to any part thereof by action of the elements or from any other cause whether installed, in storage, or off-site. The Contractor shall rebuild, repair, restore, and make good damage to any portion of the Work occasioned by any of the foregoing causes before final acceptance and shall bear the expense thereof. The Owner may reimburse the Contractor for repair of damage to Work attributable to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor. In case of suspension of work, the Contractor shall be responsible for the Project and shall take such precautions as may be necessary to prevent damage to the Work, provide for erosion and environmental control and drainage control, and erect any necessary temporary structures, signs, or other facilities at his own expense. During the suspension of Work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established plantings, seedings, and soddings furnished under the Contract and shall take adequate precautions to protect new tree growth and other important vegetation against damage.
- 3.6 Emergency traffic such as police, fire and disaster units shall be provided reasonable access to the work area at all times. The Contractor shall coordinate partial or full street closures with all emergency services, such as police, fire and disaster units, and shall bear the responsibility of notification to same of all closures, blockages and re-openings.
- 3.7 The Contractor shall, during the progress of the Work and as directed by the Owner, remove from the Owner's property and from all public and private property and rights-of-way, at its own expense, all temporary structures, rubbish, debris, piles of earth, foreign matter, and waste materials resulting from his operations. The site of the Work shall be restored to the conditions existing before the Work was started, to the satisfaction of the Owner. Lawns, pavements, sidewalks, and other surfaces shall be preserved where practicable, but if damaged, shall be fully restored.
- 3.8 The Owner may take corrective action if the Contractor fails to perform cleanup and restoration in an orderly, continuous, and expeditious manner. The Owner may take corrective action three days after delivery of notice to do so to the Contractor and deduct the cost from any monies due the Contractor.

- 3.9 The Contractor shall preserve property and improvements along the lines of and adjacent to the Work unless their removal or destruction is called for by the Contract Documents. The Contractor shall use suitable precautions to prevent damage to such property.
- 3.10 When the Contractor finds it necessary to enter on private property, he shall secure from the property owner or lessee a written permit for such entry prior to moving thereon. An executed copy of this permit shall be furnished to the Owner.
- 3.11 The Contractor shall be responsible for damage or injury to property during the prosecution of the Work resulting from any act, omission, neglect, or misconduct in the method of executing the Work or attributable to defective Work or materials. This responsibility shall not be released until final acceptance of the Project.
- 3.12 When direct or indirect damage is done to property by or on account of any act, omission, neglect or misconduct in the method of executing the Work or in consequence of the non-execution thereof on the part of the Contractor, the Contractor shall restore such property to a condition substantially equal to that existing before such damage was done by repairing, rebuilding or restoring, as may be directed by the Owner, or making settlement with the property owner. The Contractor shall secure from the property owner a release from any claim against the Owner without additional compensation therefor. A copy of this release shall be furnished to the Owner.
- 3.13 All property boundary markers shown on the Drawings or discovered during the course of construction shall be protected. All property boundary markers disturbed due to construction activities shall be replaced by the Contractor at no expense to the Owner. Property boundary markers shall be restored by a surveyor licensed in the State of Virginia and all restored property boundary markers shall be shown on the Record Drawings.
- 3.14 The Contractor shall employ a licensed Plumbing Contractor, who shall obtain the necessary permits and shall do all Work on private property in accordance with the International Plumbing Code, latest edition. The Owner will obtain the permission of the property owner to work on private property. No payment will be made for work done on private property until all restoration work is complete to the satisfaction of the Owner and the homeowner.
- 3.15 The Contractor will notify the affected property owners, in writing *five (5) calendar* Days prior to commencement of Work. "Affected Property Owners" shall be those property owners whose properties are affected by construction on the Project in the following manner: (i) restrained access to and from residences and business locations; (ii) interference with the right to enjoy one's residence or business free of disturbing and unusual environmental changes as a result of the Project, such as excessive noise, dust, light, as well as unusual working hours and odors; and (iii) the relocation of personal property, such as trees, shrubs, plants and flowers, play equipment, portable buildings, fences and automobiles, which must be moved as a result of the Project. Such Notice shall be deemed properly given if mailed by first class, postage prepaid, to the address for the property owners shown in the local tax records.
- 3.16 It shall be the Contractor's paramount responsibility to additionally notify each residence and business that construction adjacent to their property is imminent. This notification will be given and noted no less than 48 hours prior to Work commencing adjacent to the affected property. The Notice from the Contractor shall be written and may be hand delivered to each affected residence and

business. A separate Notice shall be delivered each time the entrance to each residence and business will be blocked or inaccessible.

- A. If this Notice is mailed, time is to be allowed such that receipt by the addressee is at least 48 hours prior to Work commencement. Such Notice shall be deemed properly given if mailed by first class, postage prepaid, to the address for the property owners shown in the local tax records. A duplicate copy of each mailed Notice is to be forwarded to the Owner.
- B. If this Notice is hand delivered, a duplicate copy of each Notice is to be forwarded to the Owner indicating the date of delivery and if personal contact was achieved.

#### **IV. ENVIRONMENTAL STIPULATIONS**

- 4.1. Any cost associated with violations of the law including, but not limited to, remediations, clean up cost, fines, administrative or civil penalties or charges, and third party claims imposed on the Owner by any regulatory agency or by any third party as a result of the Contractor's noncompliance with federal, state, or local environmental laws and regulations or nuisance statutes by the Contractor or by Subcontractors, consultants, sub-consultants, or any other persons, corporations or legal entities retained by the Contractor for this Agreement, shall be paid by the Contractor.

No separate payment will be made for the Work or precautions described herein except where provided for as a specific item in the Agreement or except where provision has been made for such payment in these specifications.

- 4.2. Pollution:

- A. Water

The Contractor shall exercise every reasonable precaution throughout the duration of the project to prevent pollution of rivers, streams, and impoundments. Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage, paints, sedimentation, and other harmful material shall not be discharged into or alongside rivers, streams, or impoundments or into channels leading to them.

Construction discharge water shall be filtered to remove deleterious materials prior to discharge into state waters. During specified spawning seasons, discharges and construction activities in spawning areas of state waters shall be restricted so as not to disturb or inhibit aquatic species that are indigenous to the waters. Neither water nor other effluence shall be discharged onto wetlands or breeding or nesting areas of migratory waterfowl. When used extensively in wetlands, heavy equipment shall be placed on mats. Temporary construction fills and mats in wetlands and flood plains shall be constructed of approved non-erodible materials and shall be removed by the Contractor to natural ground when the Owner so directs.

If the Contractor dumps, discharges, or spills any oil or chemical that reaches or has the potential to reach a waterway, he shall immediately notify all appropriate jurisdictional state and federal agencies and shall take immediate actions to contain, remove, and properly dispose of the oil or chemical.

Excavation material shall be disposed of in approved areas above the mean high water mark shown on the plans in a manner that will prevent the return of solid or suspended materials to state waters. If the mark is not shown on the plans, the mean high water mark shall be considered the elevation of the top of stream banks.

Construction operations in rivers, streams, or impoundments shall be restricted to those areas where channel changes are shown on the plans and to those that shall be entered for the construction of structures. Rivers, streams, and impoundments shall be cleared of false-work, piling, debris, or other obstructions placed therein or caused by construction operations.

The Contractor shall prevent stream constriction that would reduce stream flows below the minimum, as defined by the State Water Control Board, during construction operations. If it is necessary to relocate an existing stream or drainage facility temporarily to facilitate construction, the Contractor shall design and provide temporary channels or culverts of adequate size to carry the normal flow of the stream or drainage facility. The Contractor shall submit a temporary relocation design to the Owner for review and acceptance in sufficient time to allow for discussion and correction prior to beginning the work the design covers. Costs for the temporary relocation of the stream or drainage facility shall be included in the Contract Price for the related pipe or box culvert.

When a live watercourse must be crossed by construction vehicles more than twice in any six month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.

Contractor shall comply with all provisions of the latest edition of the Virginia Erosion and Sedimentation Control Handbook.

**B. Air**

The Contractor shall comply with the provisions of the State Air Pollution Control Law and Rules of the State Air Pollution Control Board, including notifications required therein.

Burning shall be performed in accordance with applicable local laws and ordinances and under the constant surveillance of watchpersons. Care shall be taken so that the burning of materials does not destroy or damage property or cause excessive air pollution. The Contractor shall not burn rubber tires, asphalt, used crankcase oil, or other materials that produce dense smoke. Burning shall not be initiated when atmospheric conditions are such that smoke will create a hazard to the motoring public or airport operations. Provisions shall be made for flagging vehicular traffic if visibility is obstructed or impaired by smoke. At no time shall a fire be left unattended.

Asphalt mixing plants shall be designed, equipped, and operated so that the amount and quality of air pollutants emitted will conform to the Rules of the State Air Pollution Control Board.

Emission standards for asbestos incorporated in the EPA's National Emission Standards for

Hazardous Air Pollutants apply to the demolition or renovation of any institutional, commercial, or industrial building, structure, facility, installation, or portion thereof that contains friable asbestos.

C. Noise

The Contractor's operations shall be performed so that exterior noise levels measured during a noise-sensitive operation shall not be more than ~~65~~ ~~80~~ decibels *when measured at a distance of at least six feet (6')* ~~within 100 feet~~ from the point of origin or within ten (10) feet of a noise-sensitive facility. Noise-sensitive facility is any facility for which lowered noise levels are essential if the facility is to serve its intended purpose. Such facilities include, but are not limited to, those associated with residences, hospitals, nursing homes, churches, schools, libraries, parks, and recreational areas.

The Owner may monitor construction-related noise. If construction noise levels exceed the specified limits, the Contractor shall take corrective action before proceeding with operations. The Contractor shall be responsible for costs associated with the abatement of construction noise and the delay of operations attributable to noncompliance with these requirements.

The Owner may prohibit or restrict to certain portions of the project any work that produces objectionable noise between 9 P.M. and 7 A.M. If other hours are established by local ordinance, the local ordinance shall govern.

Equipment shall in no way be altered so as to result in noise levels that are greater than those produced by the original equipment.

When feasible, the Contractor shall establish haul routes that direct his vehicles away from developed areas and ensure that noise from hauling operations is kept to a minimum.

These requirements are not applicable if the noise produced by sources other than the Contractor's operation at the point of reception is greater than the noise from the Contractor's operation at the same point.

D. Forest Fires

The Contractor shall take all reasonable precautions to prevent and suppress forest fires in any area involved in construction operations or occupied by him as a result of such operations. The Contractor shall cooperate with the proper authorities of the state and federal governments in reporting, preventing, and suppressing forest fires. Labor, tools, or equipment furnished by the Contractor upon the order of any forest official issued under authority granted the official by law shall not be considered a part of the Contract. For fires originating by no fault of the Contractor, the Contractor may negotiate with the proper forest official for compensation for such labor, tools, or equipment.

4.3. Archeological, Paleontological, and Rare Mineralogical Findings:

In the event of the discovery of prehistoric ruins, Indian or early settler sites, burial grounds, skeletal remains, relics, artifacts, fossils, stone tools, meteorites, or other articles of archeological, paleontological, or rare mineralogical interest during the prosecution of work, the Contractor shall act immediately to suspend work at the site of the discovery and notify the Owner. The Owner will immediately notify the proper state authority charged with the responsibility of investigating and evaluating such finds. The Contractor shall cooperate and, upon request by the Owner, assist in protecting, mapping, and removing the findings. Findings shall become the property of the Owner unless they are located on federal lands, in which event they shall become the property of the U.S. government.

When such work delays the progress of the Work, the Owner will give consideration to adjustments in the Contract Time limit. However, no adjustment in Contract Price nor Time will be allowed for delays that do not exceed 2 working days from the time the Contractor is notified to stop work.

## **V. TEMPORARY FACILITIES**

- 5.1. The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of employees as may be necessary to comply with the requirements of any governing body and regulatory agency having jurisdiction.
- 5.2. The Contractor shall pay for and furnish temporary facilities (such as light, power, and water) complete with connecting piping, wiring, lamps, and similar equipment as necessary. The Contractor shall install, maintain, and remove temporary facilities upon completion of the Work. The Contractor shall obtain all permits and bear all costs in connection with temporary facilities at no expense to the Owner. The use of temporary facilities shall be in compliance with the requirements of the facility owner.
- 5.3. The Contractor shall provide at least one self-contained single-occupant toilet unit of the chemical, or aerated recirculation type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar non-absorbent material. Unit shall be emptied and serviced regularly.

## **VI. EMERGENCIES**

- 6.1 In emergencies affecting the safety of persons, or the Work, or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Owner, shall act to prevent threatened damage, injury or loss. The Contractor shall give the Owner prompt Written Notice of any significant changes in the Work or deviations from the Contract Documents caused thereby. Any compensation, claimed by the Contractor on account of emergency work, shall be determined by agreement between the Owner and the Contractor, and a Change Order shall be issued to document the changes.

## **VII. WARRANTY AND GUARANTEE**

- 7.1. The Contractor shall warrant and guarantee to the Owner that all Work is in accordance with the Contract Documents and is not defective. Prompt notice of all defects shall be given to the Contractor. The Contractor shall promptly correct all defective Work performed and replace defective materials or items found deficient during the final inspection, in a manner satisfactory and at no additional cost to the Owner for a period of one (1) year following the date of Substantial

Completion; provided, however, if the local ordinances or code regarding warranties and guarantees, or if any provision in the local ordinances or code regarding the timing of performance or defect bonds conflicts with such one (1) year period, the local ordinance or code shall control. This warranty and guarantee shall not operate as a waiver of any of the rights and remedies of the Owner for default under or breach of the Agreement which rights and remedies may be exercised at any time within the period of any applicable statute of limitations.

- 7.2. Where defective Work (and damage to other Work resulting therefrom) has been corrected, removed or replaced under this Article, the correction period hereunder with respect to such Work will be extended for an additional period of one (1) year after such corrections or removal and replacement has been satisfactorily completed. Repetitive malfunction of an equipment or product item shall be cause for replacement and an extension of the correction period to a date one (1) year following acceptable replacement. A repetitive malfunction shall be defined as the third failure of an equipment or product item following original acceptance.
- 7.3. If the Contractor does not promptly correct the defective Work or replace defective materials, the Owner may have the defective Work corrected or the rejected Work removed and replaced, and all costs of such removal and replacement shall be paid by the Contractor.
- 7.4. Certain equipment or items may be required in the Contract Documents to be warranted for periods longer than one year.
- 7.5. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Contract Documents or by Change Order.

#### **VIII. OPENING SECTIONS OF PROJECTS TO TRAFFIC**

- 8.1. When specified in the Contract or when directed by the Owner, certain sections of the Work may be opened to traffic.
- 8.2. On any section of the Work opened by order of the Owner where the Contract Documents do not provide for traffic to be carried through the Work and the Contractor has not been dilatory in prosecuting the Work, the Contractor will not be required to assume any expense entailed in maintaining the road for traffic. Such expense will be borne by the Owner or will be compensated for by Change Order. Repair of slides and repair of damage attributable to traffic will be compensated for by Change Order. The cost of all other repairs shall be borne by the Contractor.
- 8.3. On any section of the Work opened by the order of the Owner where the Contract Documents do not provide for traffic to be carried through the Work, any additional cost for the completion of other items of Work that are occasioned because of the changed working conditions will be compensated by Change Order.
- 8.4. If the Contractor is dilatory in completing the Work, he shall not be relieved of the responsibility for maintenance during the period the section is opened to traffic prior to final acceptance. Any expense resulting from the opening of such portions under these circumstances, except for slides, shall be borne by the Contractor. The Contractor shall conduct the remainder of the construction operations so as to cause the least obstruction to traffic.

## **IX. NO WAIVER OF LEGAL RIGHTS**

- 9.1. The Owner shall not be precluded or estopped by any measurement, estimate, or certificate made either before or after final acceptance of the Work and payment therefor from showing (1) the true amount and character of the Work performed and materials furnished by the Contractor, (2) that any such measurement, estimate, or certificate is untrue or incorrectly made, or (3) that the Work or materials do not conform with the provisions of the Contract. The Owner shall not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate, and payment in accordance therewith, from recovering from the Contractor or his surety, or both, such damage as it may sustain by reason of his failure to comply with the terms of the Contract. Neither the acceptance by the Owner or any representative of the Owner, nor any payment for or acceptance of the whole or any part of the Work, nor any extension of time, nor any possession taken by the Owner shall operate as a waiver of any portion of the Contract or of any power herein reserved or of any right to damages. A waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach. The Owner reserves all rights, privileges, immunities and defenses available to it at law.

End of Section

## SECTION 108

### PROSECUTION AND PROGRESS OF WORK

#### I. PATENT FEES AND ROYALTIES

- 1.1. The Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of the Owner its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by the Owner in the Contract Documents.
- 1.2. To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner, the Engineer, the Engineer's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents.

#### II. TAXES

- 2.1. The Contractor shall pay all sales, consumer, use and other similar taxes required to be paid by the Contractor in accordance with the Laws and Regulations of the Project that are applicable during the performance of the Work. (The Contractor may apply to the Virginia Department of Environmental Quality for tax exempt status for certain wastewater products.)

#### III. NOTICE TO PROCEED

- 3.1. Written Notice to Proceed will be given after the Agreement has been executed and the required Bid Security and insurances have been filed with and approved by the Owner.
- 3.2. The Contractor shall notify the Owner and all other governing bodies having jurisdiction, of the time and location that work will begin at least 48 hours prior to beginning Work.

#### IV. PRE-CONSTRUCTION CONFERENCE

- 4.1. Within ten (10) Days of the Effective Date of the Agreement, a conference attended by the Contractor, the Owner, and others as appropriate will be held to discuss the Project, ~~and~~ to discuss procedures relating to Shop Drawings, submittals, Applications for Payment, and other Project issues, and to establish a working relationship among the parties as to the Work.

#### V. CONSTRUCTION PROGRESS SCHEDULE

- 5.1. Within ten (10) Days after the Effective Date of the Agreement, the Contractor shall submit a written schedule to the Owner showing the proposed order of Work and indicating the time required for completion of major items of Work. This schedule shall take into account the passage or handling of traffic with the least practicable interference and the orderly, timely and efficient prosecution of the

Work. The schedule will be used as an indication of the sequence of the major construction operations and as a check on the progress of the Work.

- 5.2. The Contractor shall update the progress schedule monthly to reflect any schedule changes required to complete the remaining Work in accordance with the requirements of the Contract Documents. The updated schedule shall be submitted to the Owner for acceptance with the monthly application for progress payment; no payment will be made if the updated schedule is not submitted. All proposed adjustments in the progress schedule shall generally conform to the progress schedule then in effect and will comply with any provisions of the general requirements applicable thereto.

## **VI. SUBCONTRACTS**

- 6.1. Except as otherwise noted, contract Work, the cost of which is at least fifty percent (50%) of the total Contract Price shall be performed by the Contractor's own organization.
- 6.2. No part of the Work shall be transferred or subcontracted without prior written consent of the Owner, and no such consent or approval shall release the Contractor from any obligations to the Owner or persons employed by the Subcontractors, or to those supplying materials to the Subcontractors.
- 6.3. The Contractor agrees that it is as fully responsible to the Owner for the acts and omissions of its Subcontractors and persons either directly or indirectly employed by the Subcontractors as it is for the acts or omissions of persons directly employed.
- 6.4. Nothing contained in the Agreement shall create any contractual relation between any Subcontractor and the Owner.

## **VII. COMMENCEMENT AND PROSECUTION OF WORK**

- 7.1. The Contractor shall commence Work within ten (10) Days of the date specified in the Notice to Proceed. Time being of the essence of this Project, the Contractor shall prosecute the Work diligently, using such means and methods of construction as will secure its full completion within the time period specified in the Agreement. No Work shall be done at the site prior to the date specified in the Notice to Proceed.
- 7.2. The Contractor shall proceed with the Work at such rate of progress to insure full completion within the Contract Time. It is expressly understood and agreed, by and between the Contractor and the Owner, that the Contract Time for the completion of the Work as specified in the Agreement is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the Project.
- 7.3. The Contract Time will commence on the date indicated in the Notice to Proceed.
- 7.4. Once the Contractor has commenced Work, it shall be prosecuted continuously and to the fullest extent possible except for interruptions caused by delays authorized or ordered by the Owner.
- 7.5. Gifts, gratuities, or favors shall not be given or offered by the Contractor to personnel of the Owner.
- 7.6. The Contractor shall not employ any personnel of the Owner or the Engineer for any services without the prior written consent of the Owner.

- 7.7. Workers shall have sufficient skill and experience to perform properly the Work assigned to them. Workers engaged in special or skilled work shall have sufficient experience in such work and in the operation of equipment required to perform it properly and satisfactorily. Any person employed by the Contractor or any subcontractor who, in the opinion of the Owner, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Owner, be removed forthwith by the Contractor or subcontractor employing the person and shall not be employed again on any portion of the work without the approval of the Owner.
- 7.8. Equipment shall be of sufficient size and in such mechanical condition as to meet the requirements of the Work and produce a satisfactory quality of work. Equipment and the Contractor's methods and means shall be such that no damage to the roadway, adjacent property, or other highways will result from its use. The Owner may order the removal and require replacement of unsatisfactory equipment.

## **VIII. SUSPENSION OF WORK**

- 8.1. The Owner may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than 90 Days or such further time as agreed upon by the Contractor, by Written Notice to the Contractor. Such Notice shall specify the date on which Work shall be resumed and the Contractor shall resume the Work on the date so specified. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if the Contractor makes a claim in accordance with the Contract Documents, except that no such increase or extension shall be allowed if the suspension was due to a failure by the Contractor to perform the Work in accordance with the Agreement.
- 8.2. *The Owner may decline to approve or, because of subsequently discovered evidence, nullify the whole or part of any Certificate of Payment to such extent as may be necessary to protect the Owner from loss on account of:*
- A. *Defective Work not remedied;*
  - B. *Claims filed or reasonable evidence indicating probable filing of claims against the Contractor;*
  - C. *Failure of the Contractor to make payments properly to subcontractors or for materials or labor;*
  - D. *A reasonable doubt that the Contract can be completed for the balance then unpaid;*
  - E. *Damage to the Owner by another Subcontractor;*
  - F. *Failure to maintain (each month) the record set of drawings and specifications, or a failure to provide the Owner record drawings and specifications within 30 calendar days from the date of the Certificate of Substantial Completion;*
  - G. *Failure to periodically remove and dispose of accumulated debris, rubbish, and discarded/damaged materials;*
  - H. *Persistent failure to carry out the Work in accordance with the Contract Documents;*
  - I. *A reasonable doubt that the Work will be completed within the Contract Time.*
- 8.3. *When the above grounds are resolved to the satisfaction of the Owner, payment shall be made for amounts withheld therefor.*

## IX. TERMINATION OF AGREEMENT

### 9.1. Termination for the Convenience of the Owner

The performance of Work under this Agreement may be terminated by the Owner in accordance with this section in whole, or in part(s), whenever the Owner shall determine that such termination is in the best interest of the Owner. Any such termination shall be effected by delivery to the Contractor of a notice of termination specifying the extent to which performance of Work under the Agreement is terminated, and the date upon which such termination becomes effective.

After receipt of a notice of termination, and except as otherwise directed by the Owner, the Contractor shall:

- A. Stop Work under the Agreement on the date and to the extent specified in the notice of termination.
- B. Place no further orders or subcontracts for materials, services, or facilities, except as may be necessary for completion of such portion of the Work under the Agreement that is not terminated.
- C. Terminate all orders and subcontracts to the extent that they relate to the performance of the Work terminated by the notice of termination.
- D. Assign to the Owner, and as directed by the Owner, all of the right, title and interest of the Contractor under the orders and subcontracts so terminated. The Owner shall have the right and discretion to settle or pay any and all claims arising out of the termination of such orders and subcontracts.
- E. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Owner. This approval or ratification will be final for all purposes of this section.
- F. Transfer title and deliver to the Owner, as directed by the Owner, the fabricated or unfabricated parts, Work in process, completed Work, supplies, and other materials produced as a part of or acquired in connection with the performance of the Work terminated by the notice of termination, and the completed or partially completed plans, drawings, information and other property which, if the Agreement has been completed, would have been required to be furnished to the Owner.
- G. Use his best efforts to sell as directed or authorized by the Owner, property of the type referred to in Paragraph F above; provided, however, that the Contractor shall not be required to extend credit to any purchaser. The proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Owner to the Contractor under this Agreement or shall otherwise be credited to the Contract price or cost of the Work covered by this Agreement or paid in such manner as directed by the Owner. The Contractor may acquire any such property under the conditions prescribed and at a price or prices approved by the Owner.
- H. Complete performance of that Work which was not terminated by the Owner.

- I. Take such action as may be necessary, or as the Owner may direct, for the protection and preservation of the property related to this Agreement which is in the possession of the Contractor and in which the Owner has, or may acquire, an interest.
- J. Within 30 Days after the receipt of the Notice of termination, the Contractor may submit a list to the Owner for approval, certified as to quantity and quality of any or all items of, inventory not previously disposed of, exclusive of items, the disposition of which has been directed or authorized by the Owner, and may request the Owner to remove such approved items or enter into a storage agreement covering the same. Not later than 15 Days thereafter, the Owner will accept title to such approved items and remove them or enter into a storage agreement covering same. The list submitted shall be subject to final verification by the Owner upon removal of the items, or if the items were stored within 45 Days from the date of submission of the list. Any necessary adjustment to correct the list as submitted shall be made prior to final settlement.
- K. Within 30 Days after receipt of the notice of termination, the Contractor shall submit to the Owner his termination claim. Such claim shall be submitted in writing. Upon failure of the Contractor to submit its termination claim within the time allowed, the Owner may, at its discretion, reject such termination claim. Such termination claim shall include the cost of the following:
1. The cost of supplies accepted by the Owner and not previously paid for by the Owner, appropriately adjusted for any saving of freight or other charges.
  2. The cost incurred in the performance of the Work terminated, including Initial cost and preparatory expense allocable thereto, but exclusive of any cost attributable to supplies paid or to be paid for by the Owner.
  3. The cost of settling and paying claims arising out of the termination of Work under subcontracts or orders which are properly chargeable to the terminated portion of the Agreement, exclusive of amounts paid or payable on account of supplies or materials delivered or services furnished by subcontractors or vendors prior to the effective date of notice of termination and previously paid for by the Owner.
  4. A reasonable amount of profit or commission, which will be determined based on the Project's specific overhead and expense data at the rate computed in the original Contract Price or, at the discretion of the Owner, as determined by an audit. The cost of the audit will be borne by the Contractor.
  5. Cost of reasonable storage, transportation and other costs incurred in connection with the protection or disposition of property allocable to this termination portion of the Agreement.
  6. The total sum to be paid to the Contractor shall not exceed the Contract Price as reduced by the amount of payments previously made and its further reduced by the Contract Price of Work not terminated. Said total sum shall also be reduced by the reasonable value, as determined by the Owner, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Owner or to a buyer.

## 9.2. Termination with Cause/Default

In the event that the Contractor shall for any reason or through any cause be in default of the terms of this Agreement, the Owner may give the Contractor written Notice of such default by certified mail/return receipt requested at the address set forth herein.

Unless otherwise provided, Contractor shall have ten (10) Days from the date such notice is mailed in which to cure the default. Upon failure of the Contractor to cure the default, the Owner may immediately cancel and terminate this Agreement as of the mailing date of the default notice.

Upon termination, the Contractor shall withdraw its personnel and equipment, cease performance of any further Work under this Agreement, and turn over to the Owner any Work in process for which payment has been made.

In the event of violations of law, safety or health standards and regulations, this Agreement may be immediately canceled and terminated by the Owner and provisions herein with respect to opportunity to cure default shall not be applicable.

## 9.3. Contractor's Right to Terminate the Agreement

Should the Work be stopped for a period of 90 Days or more, through no fault of the Contractor, or should the Owner fail to pay the Contractor any payment within a reasonable length of time after said payment shall become due, the Contractor may, upon seven (7) Days written notice to the Owner, stop Work, or terminate the Agreement and recover from the Owner payment for all Work executed, plus any loss actually sustained, plus reasonable profit and damage; provided, however, the total recovery from Owner shall not exceed the Contract Price.

## X. LIQUIDATED DAMAGES

- 10.1. It is mutually understood and agreed by and between the Contractor and Owner that in the execution of the Work, time is an essential element of the Agreement, and it is important that the Work proceed vigorously to completion.
- 10.2. The Owner has the right to deduct *any* liquidated damages from any money in the Owner's hands, otherwise due, or to become due, to the Contractor, and to sue for and recover any additional compensation for damages for non-performance of the Work or failure to complete the Work within the Contract Time.
- 10.3. The assessment of liquidated damages for failure to complete the Work within the Contract Time shall not constitute a waiver of the Owner's right to collect any additional damages that the Owner may sustain by failure of the Contractor to carry out the terms of the Agreement.
- 10.4. In the event of delay in the completion of the Work as specified beyond the Completion Date as adjusted by Change Orders, it would be difficult to determine the exact amount of the loss or damages suffered by the Owner due to delays in completion of the Agreement. Therefore, for every - Day of delay past Completion Date of this Agreement as adjusted by Change Orders, the Contractor and the Contractor's Surety will be liable to the Owner, as liquidated damages for delay and not as a penalty, in the sum designated in Section 102, III. Bid Form, and in paragraph H of the Agreement between Contractor and Owner as set forth in Section 103, for each and every calendar Day the Contractor shall be in default, as follows:

- A. If Substantial Completion has not been achieved by the scheduled Substantial Completion date, the Substantial Completion liquidated damages shall accrue each day until Substantial Completion is achieved.
  - B. If neither Substantial Completion nor Final Completion has been achieved by the scheduled Final Completion date, only Substantial Completion liquidated damages shall occur each day until Substantial Completion is achieved and, thereafter, Final Completion liquidated damages shall accrue each day until Final Completion is achieved.
  - C. If Substantial Completion has been achieved but Final Completion has not been achieved by the Final Completion date, Final Completion liquidated damages shall accrue each day until Final Completion is achieved.
  - D. Substantial Completion liquidated damages and Final Completion liquidated damages shall not run concurrently.
  - E. The scheduled Final Completion date shall not be extended, in any case, solely because Substantial Completion was not achieved by the scheduled Substantial Completion date.
  - F. This paragraph will not apply to delays in completion of the Work due to acts of God, acts of the Public Enemy, acts of the Government (in either its sovereign or contractual capacity), fires, floods, strikes, or unusually severe weather, provided, that the Contractor shall, within five (5) days from the end of the month in which such delay occurred, notify the Owner in writing of the causes of delay and the facts relating thereto; and, provided that such delay occurs prior to the Substantial Completion date or, if Substantial Completion has been achieved, such delay occurs prior to the Final Completion date. Failure to provide such notice shall preclude the Contractor from claiming that delays resulted from the acts of God, acts of the Public Enemy, acts of the Government (in either its sovereign or contractual capacity), fires, floods, strikes, or unusually severe weather.
  - G. Nothing in the above clause shall be interpreted as limiting in any way, the Owner's right to proceed against the Contractor for additional damages or losses. Liquidated damages are for delay only and are in addition to any other rights available to the Owner by contract or law. To the fullest extent permitted by Laws and Regulations, the Contractor shall waive any defense as to the validity of such liquidated damages as set forth herein on the grounds that such liquidated damages are void as penalties or are not reasonably related to actual damages.
- 10.5. Weather shall be considered "unusually severe"; only if a weather condition (or any combination of weather conditions) prevents the Contractor from working a number of workdays during a calendar month, which number exceeds the number of workdays listed below for that calendar month. Delays will only be allowed for the amount of lost work days in excess of the following:

January	6	July	4
February	4	August	3
March	4	September	3
April	3	October	3
May	4	November	3
June	4	December	5

- 10.6. The Contractor shall anticipate the potential loss of the number of workdays listed above for each calendar month due to weather, and shall schedule the Work accordingly. Any schedules submitted shall include the above number of days each month as lost days. The Owner shall determine, upon

examination of submitted evidence, whether or not weather prevented the Contractor from performing Work on the days claimed by the Contractor. The Owner's determination shall be final and binding upon the parties.

- 10.7. The Work shall be considered complete when the following criteria have been met; all items of the Work have been constructed, inspected and accepted by the Owner and further that all punch list items have been corrected and the Owner has issued a letter of acceptance.

## **XI. SEPARATE CONTRACTS BY OWNER**

- 11.1. The Owner reserves the right to award other contracts in connection with the Project, the work under which may proceed simultaneously with the execution of this Agreement. The Contractor shall afford other separate contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and the Contractor shall take all reasonable action to coordinate its Work with theirs. If the work performed by the separate contractor is defective or so performed as to prevent the Contractor from performing the Work, the Contractor shall immediately notify the Owner upon discovering such conditions. Upon receiving notification, the Owner shall take such appropriate steps as are necessary to allow the Contractor to perform Work under the Agreement, and appropriate extensions of time and change orders will be given to the Contractor, pursuant to the Agreement, to compensate for any delays and extra costs caused by separate contractor's performance.

## **XII. INDEMNIFICATION**

- 12.1. To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner, the Engineer, the Engineer's Consultants and officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages (including, but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from the performance of the Work, provided that any such claim, cost, loss or damage: (i) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) is caused in whole or in part by any negligent act, errors, omissions, recklessness, or intentionally wrongful conduct of the Contractor, any Subcontractor, any supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by ~~any negligence or omission of a person or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such person or entity.~~ ***This paragraph shall not require indemnification for a particular claim, cost, loss, or damage to the extent caused by or resulting solely from the negligence of the Owner, its agents, or employees.***
- 12.2. In any and all claims against the Owner or any of the Owner's consultants, agents, officers, directors, or employees by any employee (or the survivor or personal representative of such employee) of the Contractor, any Subcontractor, any supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any such Subcontractor, supplier or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

- 12.3. The indemnification obligations of the Contractor shall not extend to the damages caused by the Owner and the Owner's consultants, officers, directors, employees or agents resulting from the negligent preparation or approval of, Drawings, or Specifications.

End of Section

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## SECTION 109

### MEASUREMENT AND PAYMENT

#### I. MEASUREMENT AND PAYMENT PROCEDURES

##### 1.1 General

- A. Measurement will be made on the basis of completion of the Work in accordance with the Contract Documents and the appropriate specification section.
- B. Measurement of quantities will be made by the Contractor in the presence of the Owner. The methods of measurement and computations used in determination of quantities of materials furnished and installed shall be those generally recognized as conforming to good engineering practice.
- C. The term "Complete in Place" will mean that the item of Work shall be furnished and installed in accordance with the Contract Documents complete with all appurtenances necessary for the item to be used for its intended function. Testing and acceptable results shall be included.
- D. Linear foot and vertical foot measurements shall be measured along the horizontal plane of the ground or paved surface.
- E. Area computations shall be made on the surface. Pay measurements for area computations will not exceed plan dimensions as shown on the Drawings, unless otherwise approved by the Owner in writing.
- F. No payment will be made for length, width, or depth, in excess of that shown on the Drawings or specified in the Specifications for any construction, unless otherwise approved by the Owner in writing.
- G. The term "Each" when used as an item of payment will mean complete payment for the Work described in the Contract Documents.
- H. The word "Lump Sum" when used as an item of payment will mean complete payment for Work described in the item, including all materials, labor, and equipment necessary to complete the Work in accordance with the Contract Documents.
- I. Quantities will be measured and paid for in accordance with one of the following methods, and as specified on the Bid form

##### 1.2 Incidental Items

- A. There are numerous incidental items of work that are required to complete the Project. While these items may not be specifically mentioned or illustrated by the Contract Documents and there may be no specific pay items listed for them, the Contractor will be required to perform those incidental tasks that can be anticipated through inspection of the

Contract Documents, inspection of the construction area, and experience in this class of construction.

B. Items considered incidental work shall not be measured for payment or paid for as such unless specified as unit price by items on the bid form. These items and their costs shall be included in the unit prices or lump sum bid for the pay items unless bid separately. Incidental items include but are not limited to the following:

1. Allaying dust and mud
2. Daily cleanup
3. Excavation and dewatering
4. Furnishing, hauling, placing, manipulating, and compacting material
5. Location of existing utilities
6. Material royalties
7. Mobilization and demobilization
8. Offsite disposal of excess excavated, surplus and remnant excavated materials
9. Permits, unless provided by the Owner
10. Removal and replacement of existing signs, fences, mail boxes, and similar existing improvements
11. Site restoration and cleanup
12. Site security
13. Stakeout and surveying
14. Traffic control
15. Minor relocation of buried cables, gas lines, water lines, sewer lines, or similar utility lines 2 inches and smaller in diameter
16. Construction entrances
17. Pavement marking
18. Final Surface restoration
19. Top soil and seeding
20. Clearing and grubbing
21. Protection of existing utilities and other facilities.
22. ***Shoulder tie-in to new or restored pavement***
23. ***Connection to existing or replaced mains***
24. ***Drainage feature restoration including culvert end-walls, swales, and paved swales***
25. ***Any costs associated with construction phasing***
26. ***Record Drawings***
27. ***Backfilling***
28. ***Compaction testing***
29. ***Sheeting, shoring, and bracing***
30. ***Warranty inspection***

### 1.3 Application for Progress Payment by Contractor

A. Unless otherwise provided in this Section, the Owner shall make monthly progress payments to the Contractor on the basis of a duly certified and approved Application for Payment for Work performed during the preceding calendar month as approved by the Owner.

- B. At least ten (10) Days before each partial progress payment (but not more often than once a month), the Contractor shall submit to the Owner an Application for Payment filled out and signed by the Contractor for the Work completed during the period covered by the partial progress payment estimate and supported by such data as is required by the Contract Documents.

#### 1.4 Payment for Material on Hand

If payment is requested on the basis of materials and equipment not incorporated in the Work, but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall be accompanied by a bill of sale, invoice, or other instrument documenting that the materials and equipment are free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance, all of which will be satisfactory to the Owner. ***Payment for such material and equipment shall be in the amount of the lesser of the invoice price paid for the materials or 60% of the unit price bid.*** The Owner, at its sole discretion, may not pay for stored materials without prejudice and without cause.

#### 1.5 Review of Applications for Progress Payments

- A. The Owner shall, within ten (10) Days after receipt of each Application for Payment, make such investigations as deemed necessary to verify the accuracy of the Application for Payment and either accept the application as accurate and suitable for payment or return the Application to the Contractor indicating in writing the Owner's reasons for refusing payment. If payment is refused, the Contractor shall make the necessary corrections and resubmit the Application and the Owner shall have an additional ten (10) Days after receipt of the corrected Application for Payment from the Contractor to determine whether this Application is accurate and suitable for payment.
- B. The Owner shall, within 30 Days after acceptance of the Application for Payment, make payment to the Contractor. The Owner may refuse to make payment of the full amount because claims have been made against the Owner on account of the Contractor's performance or furnishing of the Work, or because Liens have been filed in connection with the Work, or because there are other claims entitling the Owner to a set-off against the payment. The Owner shall give the Contractor immediate written Notice stating the reasons for its failure to make payment.
- C. The Owner may also refuse to make payment of the full amount because there are other items entitling the Owner to retain set-offs from the amount recommended, including but not limited to:
  - 1. Owner compensation to the Engineer for actual costs for extra personnel hours for labor plus expenses because of the following Contractor caused events:
    - a. Witnessing re-testing of corrected or replaced defective work.
    - b. Return visits to manufacturing facilities to witness factory testing or re-testing.

- c. Evaluation of proposed substitutes and in making changes to Contract Documents occasioned thereby.
  - d. Overtime worked by the Contractor necessitating the Engineer, Resident Project Representative (and support staff, if any), to work overtime.
2. Liability for liquidated damages incurred by the Contractor as set forth in the Agreement.
  3. Loss to Owner caused by Contractor acts or omissions including, but not limited to:
    - a. Defective Work not remedied;
    - b. Claims filed or reasonable evidence indicating probable filing of claims against the Contractor;
    - c. Failure of the Contractor to make payments properly to subcontractors or for materials or labor;
    - d. A reasonable doubt that the Project can be completed for the balance then unpaid;
    - e. Failure to maintain (each month) the record set of Drawings and Specifications. Failure to provide the Owner with record Drawings and Specifications within thirty (30) calendar Days from the date of the Substantial Completion;
    - f. Failure to periodically remove and dispose of accumulated debris, rubbish, and discarded/damaged materials;
    - g. Persistent failure to carry out the Work in accordance with the Contract Documents;
    - h. A reasonable doubt that the Work will be completed within the Contract Time.
  4. Failure of the Contractor to submit an updated progress schedule or other required supporting documentation (if requested by the Owner) to the Owner with the monthly application for progress payment.

#### 1.6 Retained Funds

1. The Owner shall retain *five* percent (5%) of the total amount of each partial progress payment to assure faithful performance of the Agreement by the Contractor. The Owner will release all retainage upon Final Payment.
2. Pursuant to and in accordance with Section 2.2-4334 of the Code of Virginia, the Contractor may exercise the option to use the escrow account utilization procedure with respect to retained funds. The Contractor may do so by indicating its preference for this procedure in the appropriate space provided on the Bid Form.

3. Should this option be selected, the Contractor shall execute the Escrow Agreement and shall submit same to the Owner in the manner prescribed by law. If the Escrow Agreement form is not submitted as noted, the Contractor shall forfeit such rights to the use of the escrow account utilization procedure.
4. In order to have retained funds paid to an escrow account, the Escrow Agreement shall be executed by the Contractor, the escrow agent, and the surety, and shall be submitted by the Contractor to the Owner for approval by the Owner's attorney. The Contractor's escrow agent shall be a trust company, bank or savings institution with its principal office located in the Commonwealth of Virginia. The Escrow Agreement shall contain the complete address of the escrow agent and surety, and the executed Escrow Agreement will be authority for the Owner to make payment of retained funds to the Escrow Agent. After approving the Escrow Agreement, the Owner shall pay to the escrow agent the funds retained as provided herein except that funds retained for lack of progress or other deficiencies on the part of the Contractor shall not be paid to the Escrow Agent. The Escrow Agent may, in accordance with the terms of the Escrow Agreement, invest the funds paid into the escrow account and pay earnings on such investments to the Contractor or release the funds to the Contractor provided that such funds are fully secured by approved securities.
5. Retained funds invested and securities held as collateral for retainage may be released only as and when directed by the Owner. When the Final Payment is paid, the Owner shall direct to the Contractor monies due as determined by the Owner. The Owner reserves the right to recall retained funds and to release retained funds to the surety upon receipt of written request from the Contractor or in the event of default.
6. The escrow account procedure shall apply to any contract for the sum of Two Hundred Thousand Dollars (\$200,000), or more, for construction of highways, roads, streets, bridges, parking lots, demolition, clearing, grading, excavating, paving, pile driving, miscellaneous drainage structures, and the installation of water, gas, sewer lines, and pumping stations.

#### 1.7 Conditions of Payment to Contractor

- A. All material and Work covered by partial progress payments shall thereupon become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the safety and protection of all materials and Work upon which payments have been made or the restoration or replacement of any damaged or stolen Work or property or as a waiver of the right of the Owner to require the fulfillment of all the terms of the Agreement
- B. Prior to Substantial Completion, the Owner, with the concurrence of the Contractor, may use any completed or substantially completed portions of the Work. Such use shall not constitute an acceptance of such portions of the Work.

- C. The Owner shall have the right to enter the premises for the purpose of doing work not covered by the Contract Documents. This provision shall not be construed as relieving the Contractor of the sole responsibility for the care and protection of the Work, or the restoration of any damaged Work except such as may be caused by agents or employees of the Owner.
- D. The Contractor shall indemnify and save the Owner or the Owner's agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, tools and all supplies, incurred in the furtherance of the performance of the Work. The Contractor shall, at the Owner's request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the Contractor fails to do so the Owner may, after having notified the Contractor, either pay unpaid bills or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed, in accordance with the terms of the Contract Documents but in no event shall the provisions of this Section be construed to impose any obligations upon the Owner to either Contractor, the Surety, or any third party. In paying any unpaid bills of the Contractor, any payment so made by the Owner shall be considered as a payment made under the Contract Documents by the Owner to the Contractor and the Owner shall not be liable to the Contractor for any such payments made in good faith.
- E. The Contractor shall take one of the two following actions within seven (7) days after receipt of amounts paid to the Contractor by the Owner for Work performed by the Subcontractor under the Agreement:
1. Pay to the Subcontractor the proportionate share of the total payment received attributable to the Work performed by the Subcontractor under the Agreement; or
  2. Notify the Owner and Subcontractor, in writing, of his intention to withhold all or a part of the Subcontractor's payment with the reason for nonpayment.
- F. All contracts awarded by the Contractor to a Subcontractor for any portion of the Work shall include:
1. An interest clause that obligates the Contractor to pay interest to the Subcontractor on all amounts owed by the Contractor that remain unpaid after seven (7) days following receipt by the Contractor of payment from the Owner for Work performed by the Subcontractor under that contract, except for amounts withheld as allowed.
  2. An interest rate clause stating, "Unless otherwise provided under the terms of this contract, interest shall accrue at the rate of one percent per month."
  3. A payment clause that requires (i) individual contractors to provide their social security numbers and (ii) proprietorships, partnerships, limited liability companies and corporations to provide their federal employer identification numbers.

- G. The Contractor shall include in each of its subcontracts a provision requiring each Subcontractor to include or otherwise be subject to the same payment and interest requirements as specified in Section 1.7 above, with respect to each lower-tier Subcontractor.
- H. A Contractor's obligation to pay an interest charge to a Subcontractor pursuant to the payment clause in this section may not be construed to be an obligation of the Owner. A contract modification may not be made for the purpose of providing reimbursement for such interest charge. A cost reimbursement claim may not include any amount for reimbursement for such interest charge.

#### 1.8 Final Payment

After the Contractor has completed all corrective Work as determined by a final inspection to the satisfaction of the Owner and has delivered all maintenance and operations manuals, schedules, guarantees, bonds, certificates of inspection, and other documents as required by the Contract Documents, the Contractor may make application for final payment following the procedure for partial progress payments. Within thirty (30) days after approval, the Owner shall pay to the Contractor the amount stated, less all prior payments and advances to or for the account of the Contractor. All prior estimates and payments including those relating to extra Work shall be subject to correction by this payment, which is called the Final Payment. The Contractor's obligation to perform the Work and complete the Project in accordance with the Contract Documents shall be absolute. Neither approval of any progress or Final Payment by the Owner nor the issuance of a Certificate of Substantial Completion, nor any payment by Owner to Contractor under the Contract Documents, nor any use or occupancy of the Project or any part thereof by Owner, nor any act of acceptance by Owner nor any failure to do so, nor any correction of defective Work by Owner shall constitute an acceptance of Work not in accordance with the Contract Documents.

#### 1.9 Acceptance of Final Payment Constitutes Release

The acceptance by the Contractor of the Final Payment shall be and operate as a release to the Owner of all claims and of all liability to the Contractor for all things done or furnished in connection with this Work excepting the Contractor's claims for interest upon Final Payment, should this payment be improperly delayed. No payment, final or otherwise, or partial or entire use or occupancy of the Work by the Owner, shall constitute an acceptance of any Work or materials not in accordance with the Contract Documents, nor shall the same relieve the Contractor of responsibility for faulty materials or workmanship or operate to release the Contractor or his Surety from any obligation under the Contract, the Performance Bond and Payment Bond.

#### 1.10 Assignments

Neither party to the Agreement shall sell, transfer, assign or otherwise dispose of the whole or any parts of the Agreement or of the right, title or interest therein without the prior written consent of the other, nor shall the Contractor assign any monies due or to become due hereunder, without the previous written consent of the Owner.

## 1.11 Payment Affidavit

The Owner, before making any payment, including the final payment, if it is deemed that such procedure necessary to protect his interests, may require the Contractor to furnish an affidavit from all subcontractors and material suppliers used in conjunction with this Contract that each has been paid in full, or in the alternative, an affidavit that so far as he has knowledge or information, all payments have been made and that there is no basis under which a claim against the payment bond could be filed. However, the Owner may make payments in part or in full to the Contractor without requiring the affidavits, and the payments so made shall not impair the obligations of any Surety or Sureties on any bond or bonds furnished under this Contract.

## II. CHANGE ORDERS AND FIELD ORDERS

- 2.1. The Owner may at any time, as the need arises, order changes within the scope of the Work without invalidating the Agreement. If such changes increase or decrease the amount due under the Contract Documents, or in the time required for performance of the Work, an equitable adjustment shall be authorized by Change Order.
- 2.2. The Contract Price and Contract Time may be changed only by a Change Order, approved by the Owner prior to the performance of the Work by the Contractor or granted by the Owner upon written Notice by Contractor submitted in accordance with Section 104-5.2 and 5.3 or Section 105-16.2. The value of any Work covered by a Change Order or of any claim for increase or decrease in the Contract Price or Contract Time shall be established in accordance with the following methods in the order of precedence listed below:
  - A. established contract unit prices;
  - B. an agreed lump sum or unit price established by direct negotiation between the Contractor and the Owner; or,
  - C. In the event that any changes in the Work are not settled under A. and B. above, the Contract Price shall be adjusted in accordance with the following:
    1. In any case such change involves extra Work which is performed by the Contractor, the Contract Price shall be increased by (a) the direct cost of such Work, as mutually agreed upon or otherwise as determined in accordance with the Contract Documents, and (b) ten percent (10%) of the amount of (a) to cover Contractor's additional job (field and home office) overhead, and (c) five percent (5%) of the sum of (a) and (b) to cover Contractor's additional job profit.
    2. In any case such change involves extra Work which is performed by a Subcontractor, the Contract Price shall be increased by (a) the amount paid by the Contractor to the Subcontractor for such extra Work, and (b) seven and one-half percent (7-1/2%) of the amount paid to the Subcontractor to cover the Contractor's additional job (field and home office) overhead and (c) five percent (5%) of the sum of (a) and (b) to cover Contractor's additional job profit. On Work performed by the Subcontractor, the Subcontractor shall be allowed overhead and profit in accordance with paragraph C (1) above.

3. In the case of either subparagraph 1 or 2 above, the Contract Price shall also be increased by the corresponding increase in the cost of the Contractor's performance bond.
- 2.3. It is the Contractor's responsibility to notify his Surety of any change affecting the general scope of the Work or change in the Contract Price and/or Contract Time so that the amount of the applicable Bonds shall be adjusted accordingly. The Contractor shall furnish proof of such adjustment to the Owner.
- 2.4. Whenever changes, alterations, additions, omissions, or revisions are called for by the Owner for which the necessary Drawings and details have been completed and submitted to the Contractor, or when changes, alterations, additions or omissions are clearly given in writing to the Contractor, the Contractor is to submit an itemized statement of quantities and prices incidental to such revisions, changes, additions and omissions.
- 2.5. The Owner may at any time order minor changes within the scope of Work by issuing a Field Order. The Contractor shall proceed with the performance of any changes in the Work so ordered by the Owner unless the Contractor believes that such Field Order entitles the Contractor to a change in Contract Price or Time or both, in which event the Contractor shall give the Owner written Notice thereof within seven (7) Days after the receipt of the ordered change. The Contractor shall not execute such changes pending the receipt of an executed Change Order or further instruction from the Owner. The Owner shall respond to such written Notice from Contractor within twenty-one (21) Days after receipt.
- 2.6. If any item in the Agreement is determined to be unnecessary for the proper completion of the Work contracted, the Owner may, upon written Notice to the Contractor, eliminate such item from the Agreement. Payment will not be made for such item except that the Contractor shall be compensated for the actual cost of any Work performed for the installation of such item and the net cost of materials purchased, including freight and tax costs, as evidenced by invoice. No additional compensation will be made for overhead or anticipated profit.
- 2.7. The Contractor shall not be entitled to any adjustment in the Contract Price or Contract Time due to any condition or alleged condition if:
  - A. The Contractor knew of the existence of such conditions at the time the Contractor made a final commitment to the Owner in respect of Contract Price and Contract Time by the submission of a Bid; or
  - B. The existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the Contract Documents to be conducted by or for the Contractor prior to the Contractor making such final commitment; or
  - C. The Contractor failed to give the written Notice within the time and as required by Section 104-5.2 and 5.3 or Section 105-16.2.

III.

CHANGE ORDER  
No. \_\_\_\_\_

DATE OF ISSUANCE \_\_\_\_\_ EFFECTIVE DATE \_\_\_\_\_

OWNER \_\_\_\_\_  
CONTRACTOR \_\_\_\_\_  
Contract \_\_\_\_\_  
Project \_\_\_\_\_  
OWNER'S Contract No. \_\_\_\_\_ ENGINEER'S Contract No. \_\_\_\_\_  
ENGINEER \_\_\_\_\_

You are directed to make the following changes in the Contract Documents:

Description:

Reason for Change Order:

Attachments: (List documents supporting change)

CHANGE IN CONTRACT PRICE:
Original Contract Price \$ _____
Net Increase (Decrease) from previous Change Orders No. _____ to _____: \$ _____
Contract Price prior to this Change Order: \$ _____
Net increase (decrease) of this Change Order: \$ _____
Contract Price with all approved Change Orders: \$ _____

CHANGE IN CONTRACT TIMES:
Original Contract Times: Final Completion: _____ (days or dates)
Net change from previous Change Orders No. _____ to No. _____ Final Completion: _____ (days)
Contract Times prior to this Change Order: Final Completion: _____ (days or dates)
Net increase (decrease) of this Change Order: Final Completion: _____ (days)
Contract Times with all approved Change Orders: Final Completion: _____ (days or dates)

RECOMMENDED:

APPROVED:

ACCEPTED:

By: \_\_\_\_\_  
ENGINEER(Authorized Signature)

By: \_\_\_\_\_  
OWNER(Authorized Signature)

By: \_\_\_\_\_  
CONTRACTOR(Authorized Signature)

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

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

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



**IV. APPLICATION FOR PAYMENT**

PROJECT SUMMARY

Date: \_\_\_\_\_ Contractor's Name: \_\_\_\_\_

Project Name: \_\_\_\_\_ Project Number: \_\_\_\_\_

Original Contract Amount: \$ \_\_\_\_\_  
 Original Contract Time: \_\_\_\_\_ days  
 Adjusted Contract Amount (by approved Change Orders): \$ \_\_\_\_\_  
 Adjusted Contract Time (by approved Change Orders): \_\_\_\_\_ days  
 Adjusted Contract Completion Date: \_\_\_\_\_

STATUS OF WORK PERFORMED

Total Value of Original Work Performed to Date: \$ \_\_\_\_\_  
 Total Value of Change Order Work Performed to Date (with attachment): \$ \_\_\_\_\_  
 Total Value of All Work Performed to Date: \$ \_\_\_\_\_  
 Value of Materials Stored (Attach Statement): \$ \_\_\_\_\_  
 Less \_\_\_\_\_ % Retained by Owner: \$ \_\_\_\_\_  
 Net Amount Earned on Contract to Date: \$ \_\_\_\_\_  
 Fewer Amounts of Previous Payments Approved: \$ \_\_\_\_\_

**BALANCE DUE THIS PAYMENT:** \$ \_\_\_\_\_

Value of Work Remaining to be Completed: \$ \_\_\_\_\_  
 Percentage Complete to Date (Value/Time): \_\_\_\_\_ % \_\_\_\_\_ %

CERTIFICATION OF CONTRACTOR

I certify to the best of my knowledge and belief that all items and amounts on the face of the attached estimate and invoice and this Application for Payment are correct; that all Work has been performed and/or material supplied in full accordance with the terms and conditions of the Contract Documents, including all duly authorized deviations, substitutions, alterations, additions and/or deletions; that the foregoing is a true and correct statement of the Contract Price up to and including the last day of the period covered by this estimate and Application for Payment; that no part of the "BALANCE DUE THIS PAYMENT" has been received; that all previous Progress Payments received on this Agreement have been applied by the undersigned to discharge in full all obligations of the undersigned incurred in connection with the Work covered by prior applications for payment under this Agreement; and that all materials and equipment incorporated in said payment or otherwise listed in or covered by this Application for Payment are free and clear of all liens, claims, security interest and encumbrances.

APPROVALS

This Application for Payment has been checked, verified and approved for payment by:

Contractor	By	Title	Date
Resident Project Rep.	By	Title	Date
Engineer	By	Title	Date
Owner	By	Title	Date



## V. ESCROW AGREEMENT

THIS ESCROW AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by, between, and among the \_\_\_\_\_ (Owner) and \_\_\_\_\_ (Contractor), and \_\_\_\_\_ (Bank), a trust company, bank, or savings and loan institution with its principal office located in the Commonwealth, and \_\_\_\_\_ (Surety), provides:

- 5.1. The Owner and the Contractor have entered into an Agreement dated \_\_\_\_\_, 2016, with respect to a Project titled ***Lackey Gravity Sewer Rehabilitation – Phase I*** (the Agreement). This Escrow Agreement is pursuant to, but in no way amends or modifies the Agreement. Payments made hereunder or the release of funds from escrow shall not be deemed approval or acceptance of performance by the Contractor.
- 5.2. In order to assure full and satisfactory performance by the Contractor of its obligations under the Agreement, the Owner is entitled to retain certain amounts otherwise due the Contractor, known as retainage. The Contractor has, with the approval of the Owner, elected to have such retainage held in escrow by the Bank. This document sets forth the terms of the escrow. The Bank shall not be deemed a party to, bound by, or required to inquire into the terms of the Agreement or any other instrument or agreement between the Owner and the Contractor.
- 5.3. The Owner shall from time to time pursuant to its Agreement pay to the Bank amounts retained by it under the Agreement. Except as to amounts actually withdrawn from escrow by the Owner, the Contractor shall look solely to the Bank for the payment of funds retained under the Agreement and paid by the Owner to the Bank.

The risk of loss by diminution of the principal of any funds invested under the terms of this Escrow Agreement shall be solely upon the Contractor.

- 5.4. Funds and securities held by the Bank pursuant to this Escrow Agreement shall not be subject to levy, garnishment, attachment, lien or other process whatsoever. The Contractor agrees not to assign, pledge, discount, sell or otherwise transfer or dispose of its interest in the escrow account or any part thereof, except to the Surety.
- 5.5. The following securities, and none other, are approved securities for all purposes of this Escrow Agreement:
  - A. Unites States Treasury Bonds, United States Treasury Notes, Unites States Treasury Certificates of Indebtedness or United States Treasury Bills;
  - B. Bonds, notes and other evidences of indebtedness unconditionally guaranteed as to the payment of principal and interest by the United States.
  - C. Bonds or notes of the Commonwealth of Virginia;
  - D. Bonds of any political subdivision of the Commonwealth of Virginia, if such bonds carried, at the time of purchase by the Bank or deposit by the Contractor, a Standard and Poor's or Moody's Investors Service rating of at least "A"; and,

- E. Certificates of deposit issued by commercial banks located within the Commonwealth, including, but not limited to, those insured by the Bank and its affiliates.
- F. Any bonds, notes, or other evidences of indebtedness listed in Paragraphs A through C may be purchased pursuant to a repurchase agreement with a bank, within or without the Commonwealth of Virginia having a combined capital, surplus and undivided profit of not less than \$25,000,000, provided the obligation of the Bank to repurchase is within the time limitations established for investments as set forth herein. The repurchase agreement shall be considered a purchase of such securities even if title, and/or possession of such securities is not transferred to the Escrow Agent, so long as the repurchase obligation of the bank is collateralized by the securities themselves, and the securities have on the date of the repurchase agreement a fair market value equal to at least 100% of the amount of the repurchase obligation of the Bank and the securities are held by a third party, and segregated from other securities owned by the Bank.

No security is approved hereunder which matures more than five years after the date of its purchase by the Bank or deposit by the Contractor.

- 5.6. The Contractor may from time to time withdraw the whole or any portion of the escrowed funds by depositing with the Bank securities approved, in writing, by the Owner in an amount equal to, or in excess of, the amount so withdrawn. Any securities so deposited or withdrawn shall be valued at such time of deposit or withdrawal at the lower par or market value, the latter as determined by the Bank. Any securities so deposited shall thereupon become a part of the escrowed fund.

Upon receipt of a direction signed by the chief administrative and financial official of the Owner, the Bank shall pay the principal of the fund, or any specified amount thereof, to the Owner. Such payment shall be made as soon as is practicable after receipt of the direction.

Upon receipt of a direction signed by either the chief administrative or the chief financial official on behalf of the Owner, the Bank shall pay and deliver the principal of the fund, or any specified portion thereof, to the Contractor, in cash or in kind, as may be specified by the Contractor. Such payment and delivery shall be made as soon as is practicable after receipt of the direction.

- 5.7. For its services hereunder the Bank shall be entitled to a reasonable fee in accordance with its published schedule of fees or as may be agreed upon by the Bank and the Contractor. Such fee and any other costs of administration of this Escrow Agreement shall be paid from the income earned upon the escrow fund and, if such income is not sufficient to pay the same, by the Contractor.

Under no circumstances shall the Owner be responsible to the Bank for any fee or costs of administering this Escrow Agreement, account, or escrow fund.

- 5.8. The net income earned and received upon the principal of the escrow fund shall be paid over to the Contractor in quarterly or more frequent installments. Until so paid or applied to pay the Bank's fee or any other costs of administration such income shall be deemed a part of the principal of the fund. All income earned shall be reported by the Bank to the Internal Revenue Service and other taxing authorities on the Contractor's Tax. I.D. Number, except for interest withdrawn by the Owner pursuant to paragraph IV.

5.9. The Surety undertakes no obligation hereby but joins in the escrow Agreement for the sole purpose of acknowledging that its obligations as surety for the Contractor's performance of the Agreement are not affected hereby.

WITNESS the following signatures, all as of the day and year first above written.

OWNER:

\_\_\_\_\_  
Name of Owner

By: \_\_\_\_\_  
Name

\_\_\_\_\_  
Title

CONTRACTOR:

\_\_\_\_\_  
Name of Contractor

\_\_\_\_\_  
Contractor's Tax I.D. Number

By: \_\_\_\_\_  
Officer, Partner, or Owner

BANK:

\_\_\_\_\_  
Name of Bank

\_\_\_\_\_  
Mailing Address for Payments

\_\_\_\_\_  
Account Number

By: \_\_\_\_\_  
President/Vice-President

SURETY:

\_\_\_\_\_  
Name of Surety

By: \_\_\_\_\_  
Attorney-in-Fact

**VI. AFFIDAVIT OF PAYMENT OF CLAIMS**

BY: \_\_\_\_\_ (Contractor)  
\_\_\_\_\_  
\_\_\_\_\_

THIS DAY \_\_\_\_\_ personally appeared before me, \_\_\_\_\_, a Notary Public in and for the City/County/State of Virginia, and being by me first duly sworn states that all Subcontractors and suppliers of labor and materials have been paid all sums due them to date for work performed or materials furnished in the performance of the Agreement between:

\_\_\_\_\_ (Owner)

and \_\_\_\_\_ (Contractor)

dated \_\_\_\_\_, 2016, for the construction of Lackey Gravity Sewer Rehabilitation – Phase 1 or arrangements have been made by the Contractor satisfactory to such Subcontractors and suppliers with respect to the payments of such sums as may be due them by the Contractor.

\_\_\_\_\_  
CONTRACTOR

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

My commission expires on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

\_\_\_\_\_  
SEAL OF CONTRACTOR

\_\_\_\_\_  
NOTARY SEAL



**VII. CERTIFICATE OF SUBSTANTIAL COMPLETION**

Project Description: \_\_\_\_\_ Project No.: \_\_\_\_\_  
 \_\_\_\_\_ Other: \_\_\_\_\_  
 Location: \_\_\_\_\_ Completion Date: \_\_\_\_\_  
 \_\_\_\_\_ Contract Date: \_\_\_\_\_  
 Contract For: \_\_\_\_\_ Contractor: \_\_\_\_\_  
 Owner: \_\_\_\_\_

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

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

TO WIT: The Owner and Contractor are hereby advised that the work to which this certificate applies has been inspected by authorized representatives of the Owner, Contractor, and Engineer, and that all Work is hereby declared to be substantially complete in accordance with the Contract Documents on:

\_\_\_\_\_  
 Date of Substantial Completion

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive and the failure to include an item in it does not alter the responsibility of the CONTRACTOR to complete all items of the Work in accordance with the Contract Documents. When this certificate applies to a specified part of the Work, the items in this tentative list shall be completed or corrected by the CONTRACTOR within \_\_\_\_\_ days of the above date of substantial completion. The date of substantial completion is the date which all guarantees and warranties begin, except as follows:

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

This certificate is issued, accepted, and acknowledged by:

_____ Engineer	By	_____ Title	_____ Date
_____ Contractor	By	_____ Title	_____ Date
_____ Owner	By	_____ Title	_____ Date



**VIII. STATEMENT OF SURETY COMPANY**

IN ACCORDANCE with the provisions of the AGREEMENT dated \_\_\_\_\_, 2016,

BETWEEN \_\_\_\_\_ *the County of York, Virginia* \_\_\_\_\_  
(OWNER)

AND \_\_\_\_\_  
(CONTRACTOR)

THE \_\_\_\_\_  
(SURETY)

SURETY on the Material and Labor Payment BOND of:

\_\_\_\_\_  
(CONTRACTOR)

after a careful examination of the books and records of said CONTRACTOR or after receipt of an affidavit from CONTRACTOR, which examination of affidavit satisfies SURETY that all claims for labor and materials have been satisfactorily settled, hereby approves of the final payment to the said \_\_\_\_\_, CONTRACTOR, and by these presents witnesseth that payment to the CONTRACTOR of the final estimates shall not relieve SURETY of any of its obligations to

*the County of York, Virginia* \_\_\_\_\_  
(OWNER)

as set forth in the said SURETY COMPANY'S BOND.

IN WITNESS WHEREOF, said SURETY has hereunto set its hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

ATTEST:

(SEAL) \_\_\_\_\_ BY \_\_\_\_\_  
PRESIDENT

NOTE: This statement, if executed by any person other than the President or Vice President of the Company, shall be accompanied by a certificate of even date showing authority conferred upon the person so signing to execute such instruments on behalf of the Company represented.



**IX. CONTRACTOR'S RELEASE**

KNOW ALL MEN BY THESE PRESENTS THAT:

\_\_\_\_\_ (Contractor) of \_\_\_\_\_ County/City and State of \_\_\_\_\_ does hereby acknowledge that he has received this day from the County of York, Virginia the sum of One Dollar (\$1.00) and other valuable consideration in full satisfaction and payment of all sums of money owing, payable, and belonging to \_\_\_\_\_ (Contractor) Dated \_\_\_\_\_, 20\_\_.

NOW, THEREFORE, the said \_\_\_\_\_ (Contractor) (for myself, my heirs, executors and administrators; for itself, its successors and assigns) do by these presents remise, release, quitclaim and forever discharge the said County of York, Virginia, Owner, its successors and assigns, of and from all claims and demands arising from or in connection with the said Agreement dated \_\_\_\_\_, 2016, and of and from all, and all manner of action and actions, cause and causes of action and actions, suits, debts, dues, duties, sum and sums of money accounts, reckonings, bonds, bills, specialties, covenants, contracts, agreements, promises, variances, damages, judgements, extents, executions, claims and demand, whatsoever in law or equity, or otherwise which against the said County of York, Virginia, Owner, its successors and assigns ever had, now have, or which (I, my heirs, executors, or administrators; it, its successors and assigns) hereafter can, shall or may have, for upon or by reason for any matter, cause or thing whatsoever, from the beginning of the world to the date of these presents.

IN WITNESS WHEREOF \_\_\_\_\_ (Contractor) has caused these presents to be duly executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

Signed, Sealed and Delivered  
in the Presence of:

\_\_\_\_\_ CONTRACTOR \_\_\_\_\_  
(SEAL)

BY: \_\_\_\_\_  
Name  
\_\_\_\_\_  
Title

\_\_\_\_\_  
ATTEST:  
\_\_\_\_\_  
SECRETARY







## XI. STANDARD BID ITEMS AND UNITS

Section	Bid Item	Category	Unit
301	Clearing and grubbing	Clearing and Grubbing	ACRE or LS
301	Tree protection fencing	Clearing and Grubbing	LF or EA
302	Storm sewer pipe (diameter and type)	Drainage Structures	LF
302	Pipe culverts (waterway opening)	Drainage Structures	LF
302	Pipe reducers (larger diameter)	Drainage Structures	LF
302	Jacked pipe (diameter and type)	Drainage Structures	LF
302	Reinstalled pipe (diameter)	Drainage Structures	LF
302	End sections (standard and size)	Drainage Structures	EA
302	End walls	Drainage Structures	EA
302	Box culverts (waterway opening)	Drainage Structures	LF
302	Pipe grate	Drainage Structures	LF or EA
302	Drop / yard inlets, catch basins, and intake boxes	Drainage Structures	EA
302	Base section (drop inlets and manholes)	Drainage Structures	LF
302	Manhole (0-6' depth) (4 or 5 foot diameter)	Drainage Structures	EA
302	Manhole (>6' depth) (4 or 5 foot diameter)	Drainage Structures	VF
302	Conflict manhole	Drainage Structures	EA
302	Concrete spring boxes	Drainage Structures	EA
302	Junction boxes	Drainage Structures	EA
302	Reconstructed manholes	Drainage Structures	EA
302	Precast Arches	Drainage Structures	LF
303	Regular excavation	Earthwork	CY
303	Pavement demolition (type and depth of pavement) [in proposed pavement]	Earthwork	SY
303	Pavement demolition (type and depth of pavement) [outside proposed pavement]	Earthwork	SY
303	Curb & gutter demolition	Earthwork	LF
303	Existing structure demolition	Earthwork	EA
303	Existing pipe demolition	Earthwork	LF
303	Existing Sidewalk Demolition	Earthwork	SY
303	Existing Driveway Demolition	Earthwork	SY
303	Undercut Excavation (regular)	Earthwork	CY
303	Select Material (min. CBR)	Earthwork	CY
303	<del>Select Bedding (regular)</del>	<del>Earthwork</del>	<del>CY or TON</del>
303	Suitable Fill (regular)	Earthwork	CY or TON
303	Backfill of Undercut Excavation (regular)	Earthwork	CY or TON
303	Surcharge placement and removal	Earthwork	CY
303	Settlement plate	Earthwork	EA
303	Geotextile fabric for Base Preparation	Earthwork	SY
303	<del>Select Bedding</del> /Backfill of Undercut Excavation (trenching)	Earthwork	CY or TON
303	Undercut Excavation (trenching)	Earthwork	CY

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Section	Bid Item	Category	Unit
303	Sheeting, bracing, and shoring left in place (trenching)	Earthwork	LS
303	Rip-Rap for erosion control	Earthwork	TON or SY
303	Check dam (log or rock)	Earthwork	EA
303	Baled straw check dam	Earthwork	EA
303	Temporary silt fence	Earthwork	LF
303	Geotextile fabric for Erosion Control	Earthwork	SY
303	Temporary filter barrier	Earthwork	LF
303	Sediment basin excavation	Earthwork	CY
303	Slope drain	Earthwork	EA
303	Siltation control excavation for Sedimentation Traps and Basins	Earthwork	CY
303	Inlet Protection ( type of device)	Earthwork	EA
303	Construction entrance	Earthwork	EA
<b>303</b>	<b>Protective coverings and soil stabilization mats</b>	<b>Earthwork</b>	<b>SY</b>
305	Select material - Type I	Subgrade and Shoulders	TON
305	Select material - Types II or III	Subgrade and Shoulders	CY
305	Gravel Driveway Replacement	Subgrade and Shoulders	EA
309	Aggregate material (base course)	Aggregate Base Course	CY or TON
309	Aggregate base material (base course for curb and gutter)	Aggregate Base Course	CY or TON
310	Tack coat	Tack and Prime Coat	GALLON
310	Prime coat	Tack and Prime Coat	GALLON or SY
313	Asphalt surface treatment	Asphalt Surface Treatment	SY
315/ 315A	Asphalt concrete (type and class)	Asphalt Concrete Pavement	TON or SY
315/ 315A	Bituminous Leveling Course	Asphalt Concrete Pavement	TON
315/ 315A	Edge clipping of shoulders	Asphalt Concrete Pavement	LF
315/ 315A	Asphalt Driveways (Thickness)	Asphalt Concrete Pavement	SY or EA
317	Pavement Patch	Pavement Patching	LF or SY
406	Reinforcing steel or welded wire mesh	Reinforcing Steel	POUND
406	Epoxy-coated reinforcing steel	Reinforcing Steel	POUND
414	Dry riprap (class and depth)	Riprap	SY or TON
414	Mortared riprap	Riprap	SY
414	Grouted riprap	Riprap	SY or TON
414	Dumped riprap	Riprap	SY or TON
414	Concrete riprap in bags	Riprap	CY
414	Erosion control rip rap	Riprap	SY or TON
501	Underdrain and combination underdrain	Underdrains	LF
501	Geotextile Fabric	Underdrains	LF

<b>Section</b>	<b>Bid Item</b>	<b>Category</b>	<b>Unit</b>
502	Curb, combination curb and gutter (detail designation)	Concrete Items	LF
502	Gutter, standard, radial and entrance	Concrete Items	SY or LF
502	Paved ditch	Concrete Items	SY or LF
502	Paved flume	Concrete Items	SY or LF
502	Street Connection pavement	Concrete Items	SY or LF
502	Energy Dissipators	Concrete Items	EA
502	Sign island	Concrete Items	EA or SY
502	Median barriers (including delineators)	Concrete Items	LF
502	Median Strips	Concrete Items	LF or SY
502	Directional island curb	Concrete Items	LF
502	Hydraulic cement concrete sidewalks (thickness)	Concrete Items	SY
502	Concrete steps (concrete)/Reinforcing Steel	Concrete Items	CY /LBS
502	Handrails	Concrete Items	LF
502	Geotextile drainage fabric	Concrete Items	SY
502	Curb Cut Ramps	Concrete Items	SY
502	Composite Detectable Warning Panels	Concrete Items	SF
502	Concrete Driveway Replacement (Pipe Installation)	Concrete Items	EA
502	Concrete Driveway	Concrete Items	SY
505	Guardrail (Standard)	Guardrail and Steel Median Barriers	LF
505	Radial guardrail (Standard)	Guardrail and Steel Median Barriers	LF
505	Reuse guardrail (Standard)	Guardrail and Steel Median Barriers	LF
505	Median barrier (Standard)	Guardrail and Steel Median Barriers	LF
505	Intermediate anchorage assembly	Guardrail and Steel Median Barriers	EA
505	Terminal Guardrail Treatment (Back of ditch)	Guardrail and Steel Median Barriers	LF
505	Terminal Guardrail (Roadway side)	Guardrail and Steel Median Barriers	EA
505	Reuse guardrail terminal (Standard and type)	Guardrail and Steel Median Barriers	LF or EA
505	Fixed object attachment (Standard)	Guardrail and Steel Median Barriers	EA
505	Special design guardrail bridge attachment (B or Str. No.)	Guardrail and Steel Median Barriers	LS
505	Cable barricade (Standard)	Guardrail and Steel Median Barriers	EA
505	Guardrail terminal site preparation (Standard)	Guardrail and Steel Median Barriers	EA
505	Bull nose barrier	Guardrail and Steel Median Barriers	EA
505	Guardrail terminal (Standard and type)	Guardrail and Steel Median Barriers	LF or EA
507	Fences (Standard and Height)	Fences	LF
507	Gate (Standard and Length)	Fences	EA
510	Remove, reset, relay, adjust, install, modify, reconstruct relocate, existing (Item or standard)	Relocating or Modifying Existing Miscellaneous Items	EA, LF, SY, CY or LS

Section	Bid Item	Category	Unit
510	Adjust structure heights	Relocating or Modifying Existing Miscellaneous Items	EA
511	Allaying dust	Allaying Dust	HR
512	Flagger Service (Certified)	Maintaining Traffic	HR
512	Flagger Service (Police-assisted))	Maintaining Traffic	HR
512	Pilot vehicle	Maintaining Traffic	HR
512	Electronic Arrow	Maintaining Traffic	HR
512	Warning Light	Maintaining Traffic	DAY
512	Group 2 Channelizing Devices	Maintaining Traffic	DAY,
512	Traffic barrier service (per location) (Type and/or standard)	Maintaining Traffic	LF
512	Traffic barrier service guardrail termination (standard)	Maintaining Traffic	EA or LF
512	Impact attenuator service (Type)	Maintaining Traffic	EA
512	Temporary signalization	Maintaining Traffic	LS
512	Construction pavement marking (type and message)	Maintaining Traffic	LF
512	Construction pavement message marking (type and width)	Maintaining Traffic	EA
512	Temporary Pavement marker ([ ]-way)	Maintaining Traffic	EA
512	Eradication of existing pavement marking (per 6-inch width)	Maintaining Traffic	LF
512	Temporary Detour (standard and type)	Maintaining Traffic	LF
512	Crusher run aggregate (No. 25 or 21A)	Maintaining Traffic	TON
512	Type III Barricades	Maintaining Traffic	EA
512	Construction Signs	Maintaining Traffic	SF
512	Truck Mounted Attenuator	Maintaining Traffic	HR
512	Portable Traffic Control Signal	Maintaining Traffic	LS
512	Portable Changeable Message Sign	Maintaining Traffic	HR
512	Maintenance of Traffic	Maintaining Traffic	LS
513	Mobilization (3 2 payments)	Mobilization & Demobilization	LS
515	Milling Pavement	Milling Pavement	SY
521	Pavers	Pavers	SF
530	Abandon Pipe, (diameter/flowable fill) < larger than 2-inch>	Abandonment of Existing Pipelines and Structures	LF or CY
530	Abandon Meter Boxes	Abandonment of Existing Pipelines and Structures	EA
530	Abandon Laterals and Cleanouts (on Active Mains)	Abandonment of Existing Pipelines and Structures	LF or EA
530	Abandon Drainage Structures	Abandonment of Existing Pipelines and Structures	EA
530	Abandon Metallic Structures	Abandonment of Existing Pipelines and Structures	EA
530	Abandon Manholes	Abandonment of Existing Pipelines	EA
530	Abandon Meter/Valve Vaults/Boxes	Abandonment of Existing Pipelines and Structures	EA
602	Topsoil (4-or 6-inch depth)	Topsoil	ACRE or SY

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Lackey Gravity Sewer Rehabilitation – Phase 1  
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County of York  
IFB No. 2002



<b>Section</b>	<b>Bid Item</b>	<b>Category</b>	<b>Unit</b>
603	Lime, fertilizer, seed and mulch	Seeding	ACRE or SY
604	Sod, fertilizer and lime	Sodding	SY
605	Plants (Type and size)	Planting	EA
605	Mulching and remulching	Planting	100 SF
608	Mowing	Mowing	HR or LS
700	Concrete foundation (Standard, type and, size)	Traffic Control Devices	EA
700	Electrical service (Standard and type)	Traffic Control Devices	EA
700	Luminaire arm (Length) Lighting pole	Traffic Control Devices	EA
700	(Standard luminaire mounting height, and length of luminaire arm)	Traffic Control Devices	EA
700	Signal pole (Standard, length, number, and length of arms)	Traffic Control Devices	EA
700	Overhead sign structure	Traffic Control Devices	EA
700	Bridge-mounted sign structure (Location)	Traffic Control Devices	EA
700	Pedestal pole (Standard and length)	Traffic Control Devices	EA
700	Wood pole (Class and length)	Traffic Control Devices	EA
700	Conductor Cable (Size/number)	Traffic Control Devices	LF
700	Conduit (Type and size)	Traffic Control Devices	LF
700	Trench Excavation (Standard)	Traffic Control Devices	LF
700	Junction box (Standard)	Traffic Control Devices	EA
700	Sign Posts	Traffic Control Devices	EA
700	Test Bores	Traffic Control Devices	EA
700	Electrical service grounding electrode (per 10 foot)	Traffic Control Devices	EA
700	Bored Conduit	Traffic Control Devices	LF
704	Pavement line marking (Type and/or class and width)	Traffic Control Devices	LF
704	Pavement message marking (Message)	Traffic Control Devices	EA
704	Pavement marker (Type, [ ]-way, and/or type pavement)	Traffic Control Devices	EA
801	Water main (Type & diameter)	Water Distribution Systems	LF
801	Fire hydrant assembly (Type I, II or III)	Water Distribution Systems	EA
801	Water sampling stations	Water Distribution Systems	EA
801	Gate valves (size and diameter)	Water Distribution Systems	EA
801	Butterfly Valves (diameter)	Water Distribution Systems	EA
801	Water Meter Box	Water Distribution Systems	EA
801	Tapping sleeve/valve (diameter)	Water Distribution Systems	EA
801	Blowoff Assembly	Water Distribution Systems	EA
801	Manual air vent assembly	Water Distribution Systems	EA
801	Type K copper service lines (jack and pull) (single or dual)	Water Distribution Systems	LF or EA

<b>Section</b>	<b>Bid Item</b>	<b>Category</b>	<b>Unit</b>
801	Type K copper service lines (open cut) (single or dual)	Water Distribution Systems	LF or EA
801	Private Service Relocations	Water Distribution Systems	EA
801	Polyethylene encasement	Water Distribution Systems	LF
801	Connections to existing water mains	Water Distribution Systems	EA
801	Plugging Existing 2" Water Main	Water Distribution Systems	EA
801	Offset of Existing Water Main	Water Distribution Systems	LF
801	Cut in Tees	Water Distribution Systems	EA
801	Cut in Crosses	Water Distribution Systems	EA
801	Cut in Valves	Water Distribution Systems	EA
802	Gravity sewer pipe (diameter, type and depth 0-6, 6-8, 8-10, 10-12,12-14,14-16,16-18,18-20, >20')	Sanitary Gravity Sewer Systems	LF
802	Sewer laterals (type and diameter)	Sanitary Gravity Sewer Systems	LF or EA
802	Manhole, 0' to 6' in depth (4-or 5-foot dia.)	Sanitary Gravity Sewer Systems	EA
802	Manhole extra depth (4-or 5-foot dia.)	Sanitary Gravity Sewer Systems	VF
802	Drop Manhole (inside or outside)	Sanitary Gravity Sewer Systems	EA
802	Standard manhole frame and cover	Sanitary Gravity Sewer Systems	EA
802	Watertight manhole frame and cover	Sanitary Gravity Sewer Systems	EA
802	Clean-out assemblies (mainline and service lateral)	Sanitary Gravity Sewer Systems	EA
802	Remote Camera/TV Inspection	Sanitary Gravity Sewer Systems	LF
802	Connections to existing manholes	Sanitary Gravity Sewer Systems	EA
802	Connections from existing manholes	Sanitary Gravity Sewer Systems	EA
802	Manhole and Mainline Cleanout adjustment rings	Sanitary Gravity Sewer Systems	EA
802	Manhole/Structure Coatings (Type A or B, 4- or 5-foot manhole diameter)	Sanitary Gravity Sewer Systems	VF or EA
803	Force main (type and diameter)	Sanitary Force Main Systems	LF
803	Manual air vent assembly	Sanitary Force Main Systems	EA
803	Gate valves (size and diameter)	Sanitary Force Main Systems	EA
803	Tapping sleeve/valve (size and diameter)	Sanitary Force Main Systems	EA
803	Connections to existing force mains or manholes	Sanitary Force Main Systems	EA
803	Interior Pipe Corrosion Lining (Diameter)	Sanitary Force Main Systems	LF
803	Offset of Existing Force Main	Sanitary Force Main Systems	LF
803	Cut in Tees	Sanitary Force Main Systems	EA
803	Cut in Crosses	Sanitary Force Main Systems	EA
803	Cut in Valves	Sanitary Force Main Systems	EA
804	Bore and jack casing (diameter)	Boring and Jacking	LF
806	Horizontal Directional Drill	Horizontal Directional Drilling	LS

**Sanitary Sewer Rehabilitation**

(Sections 810-822)

<b>Section</b>	<b>Bid Item</b>	<b>Category</b>	<b>Unit</b>
810	Light Cleaning (diameter) Heavy Cleaning	Sewer Line Cleaning	LF
810	(diameter and number of passes greater than 3)	Sewer Line Cleaning	LF
810	Manhole Cleaning	Sewer Line Cleaning	EA
811	Television Inspection (CCTV Only)	Television Inspection	LF
812	Bypass Pumping / Flow ~ _____ MGD (Flow > 2 MGD)	Bypass Pumping	LS
813	CIPP Method/Wall Thickness=____mm (Diameter)	Pipe Rehabilitation By Cured-In-Place Method	LF
813	Removal of Intruding Service Lateral Connections (Ferrous or Non-Ferrous)	Pipe Rehabilitation By Cured-In-Place Method	EA
814	Fold and Form Method / Wall Thickness = SDR _____ (diameter)	Pipe Rehabilitation By Fold and Form Pipe Method	LF
814	Removal of Intruding Service Lateral Connections (Ferrous or Non-Ferrous)	Pipe Rehabilitation By Fold and Form Pipe Method	EA
815	Pipe Bursting	Pipe Bursting	LF
815	Sealing and Benching Manholes	Pipe Bursting	EA
816	Sewer Joint Testing (diameter)	Sewer Joint Testing	EA
817	Chemical Joint Sealing / Grouting Sewer Point Repair	Chemical Grouting	GAL
818	(diameter, material, and depth 0-6, 6-8, 8-10, 10-12, 12-14, 14-16,16-18, 18-20, >20')	Point Repair By Excavation	LF
819	Insitu Structural Point Repair / Wall Thickness = _____ mm (diameter)	Insitu Structural Point Repair	LF
820	Insitu Point Repair by Sectional Lining / Wall Thickness =____mm (diameter)	Insitu Point Repair By Sectional Lining	LF
821	Service Laterals (diameter and material)	Sanitary Sewer Service Reconnection	LF
822	Manhole Cementitious Coating (4- or 5-ft diameter)	Manhole Rehabilitation	VF
822	Manhole Frame Seals	Manhole Rehabilitation	EA

End of Section

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**SECTION 110**

**SPECIAL PROVISIONS**

**I. CONSTRUCTION DRAWINGS:**

Plans are the property of the Owner and shall not be used for any purposes other than those specified in these Contract Documents.

**II. HAMPTON ROADS PLANNING DISTRICT COMMISSION REGIONAL CONSTRUCTION STANDARDS:**

Prior to Construction, the Contractor is required to obtain a copy of the Hampton Roads Planning District Commission (HRPDC) *Regional Construction Standards* (Fifth Edition) from the Hampton Roads Planning District Commission located in Chesapeake, Virginia.

The following modifications, additions, or deletions to the HRPDC *Regional Construction Standards* (RCS) are hereby incorporated into the contract documents.

**III. SUPPLEMENTAL INFORMATION**

**3.1 SUPPLEMENTARY TECHNICAL SPECIFICATIONS**

A. Additional technical specifications are provided to supplement the Hampton Roads Regional Construction Standards for this project. These Supplementary Technical Specifications supersede the HRPDC RCS where applicable. These Supplementary Technical Specifications include the following sections:

- Section 01151 Measurement and Payment
- Section 02224 Construction Mats
- Section 02956 Sewer Service Lateral Rehabilitation by CIPP Liner

**3.2 STANDARD DETAILS**

A. The Details listed below and either shown on the Drawings (those for which a sheet number is given) or incorporated by reference from the York County Sanitary Sewer Standards & Specifications (those for which a York County Standard Detail number is given) replace applicable Standard Details found in the Regional Construction Standards (RCS):

<u>Applicable Replacement Detail Title (location in Contract Documents)</u>	<u>RCS Detail No.</u>
Pipe Bedding Details, S3001 (Sheet G-5)	ES_01
Trench Width Detail for Payment of Contingent Items (Sheet G-5)	EW_03
Interior Drop Manhole – Gravity Discharge, S1005A (Sheet G-4)	SS_04
Manhole Invert Shaping Detail, S1008 (Sheet G-4)	SS_07

Standard Manhole Frame and Cover, S1001 (Sheet G-4)	SS_09 & SS_10
Sanitary Cleanout Frame and Cover, S1012 (Sheet G-4)	SS_11
Standard Traffic Bearing Cleanout Box & Lid (Lamphole) (Sheet G-4)	
Typical Sewer Service Connection, S1010 (Sheet G-4)	SS_14
Dual Sewer Service Connection, S1011 (Sheet G-4)	SS_15

### 3.3 MEASUREMENT AND PAYMENT

- A. Measurement and Payment will be in accordance with the supplemental specification Section 01151.
- B. Delete the *Measurement For Payment* Sections established under *Part III* of the following Sections of the Regional Construction Standards:

Division	Section	Description
3	301	Clearing and Grubbing
3	302	Drainage Structures
3	303	Earthwork
3	305	Subgrade and Shoulders
3	309	Aggregate Base Course
3	310	Tack and Prime Coat
3	313	Asphalt Surface Treatment
3	315	Asphalt Concrete Pavement (NON SUPERPAVE)
3	315A	Asphalt Concrete Pavement (SUPERPAVE)
3	317	Pavement Patching
4	406	Reinforcing Steel
4	414	Riprap
5	502	Concrete Items
5	507	Fences
5	510	Relocating or Modifying Existing Miscellaneous Items
5	511	Allaying Dust
5	512	Maintaining Traffic
5	513	Mobilization
5	515	Milling Pavement
5	521	Pavers
6	602	Topsoil
6	603	Seeding
6	604	Sodding
6	605	Planting
6	608	Mowing
7	700	Traffic Control Devices
7	704	Pavement Markings and Markers
8	812	Bypass Pumping
8	822	Manhole Rehabilitation



Section	Title	Page	Subsection	Modification
200	Products and Materials	200-59	5.11.D.3	Delete and replace with the following:  “Material joint sealing material shall be a butyl-rubber-based, preformed, flexible sealant conforming to ASTM C-990, paragraph 6.2. The dimensions of the sealant shall be as recommended by the manufacturer for the specific application and shall be approved by the Owner. The material shall be PRO-STIK or EZ-STIK as supplied by PRESS-SEAL GASKET CORPORATION for concrete wall joints and adjustment rings; M-1 structural adhesive/sealant as supplied by Chem Link Inc., for EPP adjustment rings; or approved equal.”
200	Products and Materials	200-60	5.11.D.10	Change “... The insert shall have one handle.... The handle shall be attached....” to “... The insert shall have two (2) handles.... With the gas relief valve located at the 12 o’clock position, the handles shall be located at the 3 and 9 o’clock positions and attached....”
200	Products and Materials	200-60	5.11.D	Add:  11. Manhole/chimney frame mechanical seals and chemical sealants:  A. Manhole chimney/frame mechanical seals shall be composed of flexible, pleated, high quality rubber gland with stainless steel expansion bands, and shall be designed to conform to the inside shape of the chimney area of the manhole frames. The rubber sleeve shall have a minimum thickness of 3/16 inches.  B. The rubber gland material compound shall conform to the applicable requirements of ASTM C-923, with minimum tensile strength of 1,500 psi, a maximum compression set of 18% and a durometer hardness of 48 (plus/minus 5).  C. The manhole chimney/frame seals shall be contained in place on the inside of the manhole frame chimney area through the use of stainless steel expansion bands designed to expand to form a compression seal between the rubber gland and the manhole chimney area surface.  D. The bands shall be fabricated of 16 gauge Type 304 stainless steel conforming to ASTM A240, and shall be equipped with a positive locking, worm-screw

				<p>or turnbuckle type mechanism. Screw hardware shall be Type 304 stainless steel conforming to ASTM F593 and ASTM F594.</p> <p>E. Manhole chimney/frame chemical sealants shall be composed of a two-component urethane compound designed to adhere directly to concrete, brick, iron, and mortar in the frame/chimney area of manholes.</p> <p>12. Manhole chimney rings shall be injection molded high density polyethylene (HDPE) adjustment rings as manufactured by LADTECH, Inc., adjustment rings manufactured from ARPRO® Expanded Polypropylene (EPP), or an approved equal. Adjustments for matching road grade shall be made utilizing a molded and indexed slope ring.</p> <p>13. Cast iron manhole cover riser/adjustment rings shall be as manufactured by Capitol Foundry of Virginia. Diameter to be field confirmed.</p>
200	Products and Materials	200-61	5.11.D	<p>Change  “D. Manhole /Structure Coatings”  to  “E. Manhole/Structure Coatings”</p>
200	Products and Materials	200-61	5.11.D.3	<p>Change  “3. Manhole Coatings ... systems.”  to  “3. Manhole Coatings ... systems, unless otherwise specified.”</p>
200	Products and Materials	200-61	5.11.D.4	<p>Change  “A. Type A Coating (40 to 50 mils thickness)”  to  “A. Type A Coating (minimum 80 mils thickness)”</p>

200	Products and Materials	200-61	5.11.D	Add 5:			
				5. The Coating shall have the following properties:			
				<b>Coating</b>	<b>Standard</b>	<b>Description</b>	<b>Min. Value</b>
				Epoxy	ASTM-D-790	Flexural Strength	10,000 psi
					ASTM-D-695	Compressive Strength, Yield	10,000 psi
					ASTM-D-638	Tensile Strength	7,000 psi
ASTM-D-638	% Elongation @ Max Load	1.5%					
ASTM-D-2240	Hardness, Shore D	80					
200	Products and Materials	200-61	5.11.E	Change “E. Clean-Out Assemblies” to “F. Clean-Out Assemblies”			
200	Products and Materials	200-79	5.21.B.6.a	Replace 1 <sup>st</sup> sentence to read:  “The liner shall be designed for structural CIPP wall thickness and shall be in accordance with the guidelines in Appendix XI of ASTM F 1216 09.”			
200	Products and Materials	200-82	5.21.B.12.	Add e:  e. The Contractor shall provide temperature monitoring equipment and certification from Pipeline Renewal Technologies VeriCure or equal capable of monitoring temperatures at a maximum interval of 18 inches along the bottom of the pipe.			
200	Products and Materials	200-88	5.21.J	Delete and replace with the following:  “Internal manhole frame sealant shall be Cretex EasySeal SG, or approved equal, and shall be composed of a corrosion resistant aromatic flexible urethane resin coating to be applied to the internal wall of the adjustment ring area.”			

812	Bypass Pumping	812-1	1.1.C	<p>Add 6:</p> <p>“Average Daily Flow rates at select points in the gravity sewer system are presented for general information. Overflows occurring because of inadequate bypass pumping capacity for any we-weather event shall be the sole responsibility of the Contractor.”</p> <table border="1"> <thead> <tr> <th><i>Location</i></th> <th><i>Average Daily Flow (gpm)</i></th> <th><i>Dry Weather Peaking Factor</i></th> </tr> </thead> <tbody> <tr> <td>MH 045100</td> <td>42+*</td> <td>3.0</td> </tr> <tr> <td>MH 045300</td> <td>14+</td> <td>3.0</td> </tr> <tr> <td>MH 045600</td> <td>20*</td> <td>3.0</td> </tr> <tr> <td>MH 052100</td> <td>9</td> <td>3.0</td> </tr> </tbody> </table> <p>+Conveys discharge from LS 51, flow not peaked for pump *Conveys discharge from LS 52, flow not peaked for pump</p>	<i>Location</i>	<i>Average Daily Flow (gpm)</i>	<i>Dry Weather Peaking Factor</i>	MH 045100	42+*	3.0	MH 045300	14+	3.0	MH 045600	20*	3.0	MH 052100	9	3.0
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813	Pipe Rehabilitation By Cured-In-Place Pipe Method	813-4	1.2.B.7	<p>Change “7.” to “8.”</p> <p>Add 7:</p> <p>“Temperature monitoring system and related software to verify curing process.”</p>															
813	Pipe Rehabilitation By Cured-In-Place Pipe Method	813-5	1.2.D.2	<p>Delete and replace with the following:</p> <p>“The curing log of temperatures along the entirety of the pipe during the curing process.”</p>															
813	Pipe Rehabilitation By Cured-In-Place Pipe Method	813-8	2.2.A.8	<p>Change</p> <p>“... remote temperature sensor...”</p> <p>to</p> <p>“... proposed temperature sensor monitoring equipment...”</p>															

813	Pipe Rehabilitation By Cured-In-Place Pipe Method	813-8	2.2.A.10	Change “... at the upstream and downstream manholes...” to “... along the entirety of the pipe...”
813	Pipe Rehabilitation By Cured-In-Place Pipe Method	813-9	2.4	Add:  “Service connections and laterals shall be rehabilitated to the last joint prior to the public cleanout as specified in Section 02956 - Sewer Service Lateral Rehabilitation by CIPP Liner. Contractor shall notify and coordinate with owners and tenants prior to, during, and immediately after Work.”
813	Pipe Rehabilitation By Cured-In-Place Pipe Method	813-10	II	Add:  2.9 SPECIAL WARRANTY  The Contractor shall provide an unconditional ten year written warranty from the date of completion for materials, workmanship, resistance against deterioration, failure to maintain an infiltration free surface or pipe/wall interface, or other lining failures. All defects discovered within this period, as determined by the Owner, shall be repaired or replaced in a satisfactory manner, and within a reasonable timeframe, at no cost to the Owner.
817	Chemical Grouting	817-1	1.1.A	Add:  “The Work in this Section is for the rehabilitation of defective pipe joints or other small pipe defects prior to installing a sectional or full-length CIPP liner.”
817	Chemical Grouting	817-1	1.2	Change “1.2 SUBMITTALS” to “1.3 SUBMITTALS”  Add:  C. Chemical Additives data and application description including, but not limited to, strengthening agents, dye, and/or gel time Modifier.

				<p>D. A report outlining the process to be used for the pipe defect repair, prior to installing the CIPP liner, including information specific to the job such as:</p> <ol style="list-style-type: none"> <li>1. Schedule.</li> <li>2. Coordination issues.</li> <li>3. Public notification.</li> <li>4. Access routes.</li> <li>5. Flow control in accordance with Section 812 – Bypass Pumping.</li> <li>6. Timing.</li> <li>7. Traffic control in accordance with York County and VDOT requirements.</li> <li>8. Manufacturer’s installation instructions and procedures, recommended sealing pressures, recommended chemical grout amounts, recommended gel time, and recommended set time to maximize the repair life.</li> </ol> <p>E. Published chemical grout data.</p> <p>F. Pump calibration information.</p> <p>G. Upon completion of each pipe segment, submit to the Engineer a report showing the following data for each defect grouted, or attempted to be grouted, as required. The report at a minimum shall provide:</p> <ol style="list-style-type: none"> <li>1. Identification of the sewer pipe section grouted in accordance with the Contract Documents.</li> <li>2. Type of pipe material, diameter, and depth of pipe.</li> <li>3. Length of pipe section between joints.</li> <li>4. Test pressure used and duration of test, if tested.</li> <li>5. Pass/fail results for each defect, if tested.</li> <li>6. Location stationing of each defect grouted.</li> <li>7. Volume of grout material used on each defect.</li> <li>8. Gel set time used.</li> <li>9. Grout mix record of the batches mixed including amount of grout and catalyst, additives, and temperature of the grout solution in tanks.</li> <li>10. Name of operator conducting (testing and) sealing Work.</li> <li>11. Video recordings which shall include for each pipe defect:</li> </ol>
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				<ul style="list-style-type: none"> <li>i. Pre-grouting location/inspection</li> <li>ii. Sealing and, if performed, testing operations (including inflation and deflation over the defect) displaying the final air test.</li> <li>iii. Post-grouting inspection of the pipe after all grouting Work for that pipe is complete and prior to installing CIPP liner.</li> </ul> <p>H. Certification of pressure sensing/monitoring equipment.</p> <p>I. Data on equipment operating procedures and systems.</p> <p>J. Current documentation of Contractor's compliance with product manufacturer's Safe Operating Practices Procedures (SOPP).</p> <p>K. Proof of chemical supplier's product liability insurance.</p> <p>L. Recommended manufacturer sealing procedures, pressures, chemical amounts, and gel time to maximize repair life cycle with a manufacturer letter of certification.</p> <p>M. The Contractor for pipe defect repair using chemical grout must have a minimum of five (5) years experience using the proposed product in at least 300 defects. All Contractor employees and/or subcontractors performing Work shall provide documentation of product certification and references for at least five (5) pipe defect rehabilitation jobs in the last five (5) years. Information shall include:</p> <ul style="list-style-type: none"> <li>1. A description of the job (including the product used and number of defect repairs).</li> <li>2. The location of the job.</li> <li>3. The value of the job.</li> <li>4. The Owner.</li> <li>5. Contact for the job including name, title, address, and phone number.</li> </ul>
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817	Chemical Grouting	817-1	1.2	<p>Add:</p> <p>1.2 SAFETY</p> <p>A. Contractor shall be solely responsible for safety during the performance of all Work. Contractor shall take satisfactory precautions to protect the sewer segments and appurtenances from damage that might be inflicted upon them by the use of grouting equipment. Any damage inflicted upon a sewer segment or other public or private property as a result of the Contractor's grouting operations, regardless of the grouting method used and regardless of any other circumstance which may contribute to the damage, shall be repaired by Contractor at his sole expense.</p> <p>B. Contractor shall not enter into any sewer segment where hazardous conditions may exist until such time as the source of those conditions is identified and eliminated by the Contractor. Contractor shall perform all work in accordance with the latest OSHA confined space entry regulations. Contractor shall coordinate his work with local fire and sheriff units.”</p>
817	Chemical Grouting	817-2	2.1	<p>Add:</p> <p>E. All pipe defect sealing shall follow ASTM F2304.</p> <p>F. Contractor shall complete all pipe defect repairs for a long-term repair, i.e. a minimum 15-year life cycle. All pipe defect sealing shall be documented per the report described in Paragraph 1.3.G.</p>
817	Chemical Grouting	817-3	2.2	<p>Change  “The basic equipment... less than pipe size, with the cables....”  to  “A. The basic equipment... less than pipe size and at least four (4) feet long, with the cables....”</p>

817	Chemical Grouting	817-3	2.2	<p>Add:</p> <ul style="list-style-type: none"> <li>B. The Contractor shall provide test monitoring equipment and a color television camera capable of pan and tilt.</li> <li>C. Grouting equipment shall consist of the packer and appropriate pumping and hosing systems capable of supplying an uninterrupted flow of sealing materials to completely fill voids. Grout pumping system shall be sized to deliver a mixed volume of grout at a minimum of three (3) gpm and 30 gallons of uninterrupted flow within 10 minutes.</li> <li>D. Volume of mixed grout pumped must be capable of being measured and recorded for each grouted pipe defect. Generally, the equipment shall be capable of performing the specified operations in sewers where flows do not exceed 25 percent (25%) of pipe diameter unless permitted by the Engineer.</li> </ul>
817	Chemical Grouting	817-2	2.3.A	<p>Delete and replace with the following:</p> <ul style="list-style-type: none"> <li>A. In the preparation and application of the sealing grout, water-based chemical grouts shall have the following characteristics: <ul style="list-style-type: none"> <li>1. A minimum of 12% acrylamide base material by weight in the total grout mix.</li> <li>2. Latex strengthening agent additive. The quantity and mixing procedure of strengthening agent additive shall be as recommended by the manufacturer.</li> <li>3. When roots are present, root inhibitor additive to control root re-growth. The quantity of inhibitor additive and mixing procedure shall be as recommended by the manufacturer.</li> <li>4. The ability to tolerate some dilution and react in moving water during injection.</li> <li>5. A viscosity of approximately 2 centipoise, which can be increased with approved additives.</li> <li>6. A controllable reaction time from 10 seconds to 1 hour.</li> </ul> </li> </ul>

				<p>7. A reaction (curing) that produces a homogenous, chemically stable, non-biodegradable, firm, flexible gel.</p> <p>8. The ability to increase mix viscosity, density, and gel strength by increased concentration of mix constituents or by the use of approved additives.</p> <p>9. Chemical Component A shall be dyed blue and Chemical Component B shall be dyed yellow to produce a green liquid when mixed. The dyes shall act as a visual confirmation for inspectors and field crews of proper mixing.</p>
817	Chemical Grouting	817-2	2.3.B	<p>Replace 1<sup>st</sup> sentence to read:</p> <p>“Each time a new batch of grout chemicals is mixed, or when mix temperature rises or falls 10 degrees Fahrenheit (10°F) from the most recent check, the gel time should be checked.”</p>
817	Chemical Grouting	817-2	2.3.C	<p>Delete and replace with the following:</p> <p>C. Gel times shall be calculated using the following formula unless Contractor experience and/or field conditions dictate otherwise. Any alterations of the gel time formula shall be approved by the Engineer.</p> $\text{Gel Time} = \left( \frac{\text{Volume of Pipe}}{\text{Packer Void Space}} \frac{\text{gal}}{\text{Pumping Rate(gpm)}} \right) \times \left( \frac{60 \text{ sec}}{1 \text{ min}} \right) + 20 \text{ sec} (\pm 5 \text{ sec})$ <p>D. Packer/Pipe void shall be defined as the volume between the inflated packer and the inside pipe wall when the packer is inflated per manufacturer recommendations. For example: an 8” pipe with a packer void space of 0.3 gallons and a 3 gpm pumping rate would provide</p> $\text{Gel Time} = \left( \frac{0.3 \text{ (gal)}}{3 \text{ (gpm)}} \right) \times \left( \frac{60 \text{ sec}}{1 \text{ min}} \right) + 20 \text{ sec} (\pm 5 \text{ sec})$

				E. Sealing of pipe defects shall be accomplished by Contractor as specified in Section 816 - Sewer Pipe Joint Testing.
817	Chemical Grouting	817-2	2.3.D	Change “D. Joint sealing shall be accomplished ...” to “F. Joint sealing shall be accomplished ...”
817	Chemical Grouting	817-3	2.3.D	Change last two sentences to read as follows:  “...in excess of groundwater pressures to refusal and the void or surrounding soil has been filled or solidified with the goal of 0.4 to 0.6 gallons of grout per inch-diameter per pipe joint. Refusal is when the packer void pressure during grout pumping instantaneously rises or “spikes” by four to five (4-5) psi or more above the normal void pressure observed during grout pumping operations. Refusal may also be revealed when pumping void pressure exceeds the holding pressure of the packer end elements as evidenced by “blow-by” past the packer sealing end elements. Refusal shall mean when the joint will not accept any more grout because it has flowed throughout the void space and formed a cohesive seal stopping further grout flow. The pumping, metering, and packer device shall be integrated so that the proportions and quantities of materials can be regulated and reported in accordance with paragraph 2.6.”
817	Chemical Grouting	817-3	2.3.E	Change “E. Upon completing...” to “G. Upon completing the sealing of each individual defect, .... Defects that fail....”
817	Chemical Grouting	817-3	2.3.F	Change “F. All testing...” to “H. All testing... seal every leak as required for successful installation and curing of CIPP liner. If, in the Owner’s opinion, ....”
817	Chemical Grouting	817-3	2.4	Change to read “...for all grouted lines prior to conducting testing/sealing activities.”

817	Chemical Grouting	817-3	2.6	<p>Change to read as follows:</p> <p>“2.6 TEST RECORDS</p> <p>A. During grout testing, records shall be kept which include:</p> <ol style="list-style-type: none"> <li>1. Identification of the sewer section tested.</li> <li>2. Test pressure used.</li> <li>3. Location (footage) of each grouted defect tested.</li> <li>4. Location of grouted defects not tested due to close proximity to building service connections and sanitary sewer manholes.</li> <li>5. Test pressure achieved and maintained for each grouted defect tested.</li> <li>6. Weekly equipment pressure test results.</li> <li>7. Sewer section barrel test results.</li> <li>8. Daily gel check results.</li> <li>9. Air temperature at time of testing joints.”</li> </ol>
821	Sanitary Sewer Service Reconnections	821-1	2.1.A.1	<p>Delete and replace with the following:</p> <p>“Prior to rehabilitating the gravity sewer collection system, Contractor shall accurately locate active service connections along the sewer main to be rehabilitated by dye test method or other methods approved by the Owner.”</p>
821	Sanitary Sewer Service Reconnections	821-1	2.1.A.2	<p>Delete and replace with the following:</p> <p>“Contractor shall rehabilitate all active sanitary sewer laterals from the rehabilitated sewer main to the dual-service wye, public right-of-way-line, or edge of easement, unless otherwise noted on the Contract Drawings or specified by the Owner. Contractor shall also install new cleanouts at the property/easement line for all active laterals missing a public cleanout, unless otherwise directed by the Owner.”</p>
822	Manhole Rehabilitation	822-1	1.2.A.1.d	<p>Delete and replace with the following:</p> <p>“Lining and installation procedures per manufacturer’s recommendation.”</p>
822	Manhole Rehabilitation	822-2	1.2.A.3	<p>Delete and replace with the following:</p> <p>“Calculations (or letter from the manufacturer) signed by a Professional Engineer supporting recommended liner thicknesses or wall coverage thicknesses.”</p>

822	Manhole Rehabilitation	822-2	1.2.A	<p>Add 4 through 9:</p> <ol style="list-style-type: none"> <li>4. The contractor shall furnish Material Safety Data Sheets (MSDS) for all products used in the coating system.</li> <li>5. For all coating system components, the contractor shall provide the manufacturer's application instructions, which shall include the following: <ol style="list-style-type: none"> <li>a. Surface preparation recommendations.</li> <li>b. Primer type, where required.</li> <li>c. Maximum dry and wet mil thickness.</li> <li>d. Minimum and maximum curing time between coats, including atmospheric conditions for each.</li> <li>e. Curing time before submergence in liquid.</li> <li>f. Thinner to be used with coating material (if applicable).</li> <li>g. Ventilation requirements.</li> <li>h. Minimum atmospheric conditions during which the coating shall be applied.</li> <li>i. Allowable application methods.</li> <li>j. Maximum allowable moisture content.</li> <li>k. Maximum storage life and essential storage requirements.</li> <li>l. Maximum pot life.</li> <li>m. List of application and testing equipment to be used, including inspections confirming satisfactory condition of equipment.</li> </ol> </li> <li>6. List of coating, repair, and infiltration elimination materials proposed to be used under this section, and manufacturer's data and MSDS for each material.</li> <li>7. Contractor shall provide copies of independent testing performed on the coating product indicating the product meets the requirements as specified herein.</li> <li>8. Contractor shall provide documentation that Applicator is an approved installer and licensed by the epoxy coating system manufacturer, and that equipment complies with the manufacturer's requirements.</li> <li>9. Contractor shall provide a list of at least 5 past clients, including names and telephone numbers, to verify previous satisfactory performance on projects of similar or greater size and degree of difficulty (using the epoxy coating system intended for use in this contract) and completed in the last 10 years. Contractor must have experience using the epoxy coating system intended for use in this contract on a minimum of 50 manholes. If the contractor is new to</li> </ol>
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				the business but the manufacturer has representatives who meet these requirements on site at all times, supervising and/or performing the work, then references for the work performed by the manufacturer's on-site representatives will satisfy this requirement.
822	Manhole Rehabilitation	822-2	1.2.B.1	Change "... manufacturer's installation instructions and bypass pumping." to "... manufacturer's published literature, published data, certification, installation instructions, and bypass pumping."
822	Manhole Rehabilitation	822-2	1.2.B	Add:  3. The manhole liner system supplier's letter of certification for each worker who will perform rehabilitation Work. If any of the crew members are not identified on the original certification letter received during the qualification process, then a new certification letter listing the crew member(s) must be received from the rehabilitation system supplier prior to initiation of the manhole lining.  4. Written confirmation from liner system manufacturer that Infiltration and Patch Repair, Infiltration Control Mix, cementitious grout and/or chemical grout and/or hydroactive urethane grout, and cleaner and primer products are compatible with the chosen liner system.  5. Independent test report showing that the physical properties of the proposed products meet the requirements of these Specifications and the requirements published in the manufacturer's literature.  6. Documentation of Contractor's experience. References for five (5) rehabilitation jobs in the last three (3) years shall be provided. Information shall include: a. A description of the job (including the liner method used and vertical linear feet of liner installed). b. The location of the job. c. The value of the job. d. The Owner.

				e. Contact for the job including name, title, address, and phone number.
822	Manhole Rehabilitation	822-2	I	<p>Add the following:</p> <p>1.3 MATERIALS</p> <p>A. Products approved for Type A coatings:</p> <ol style="list-style-type: none"> <li>1. Themec <ol style="list-style-type: none"> <li>a. New manhole <ol style="list-style-type: none"> <li>i. Fill voids and bug holes with Series 218 MortarClad</li> <li>ii. Series 435 Perma-Glaze (40 mils)</li> </ol> </li> <li>b. Existing manhole <ol style="list-style-type: none"> <li>i. Series 218 MortarClad (1/16-inch skim coat)</li> <li>ii. Series 435 Perma-Glaze (40 mils)</li> </ol> </li> </ol> </li> <li>2. Raven <ol style="list-style-type: none"> <li>a. New manhole <ol style="list-style-type: none"> <li>i. Raven 405 Blue Epoxy Resin (80 mils)</li> </ol> </li> <li>b. Existing manhole <ol style="list-style-type: none"> <li>i. Mortar: Quadex Hyperform or Strong-Seal Profile Plus mix</li> <li>ii. Coating: Raven 405 Blue Epoxy Resin (80 mils)</li> </ol> </li> </ol> </li> <li>3. Permacast 10,000 with Dinjer SG Mastic <ol style="list-style-type: none"> <li>a. New manhole <ol style="list-style-type: none"> <li>i. One coat Dinjer SG Mastic coating (65 mils)</li> </ol> </li> <li>b. Existing manhole <ol style="list-style-type: none"> <li>i. Mortar: Permacast 10,000, min. ½ inch (fill voids and defects)</li> <li>ii. Coating: Dinjer SG Mastic coating (65 mils)</li> </ol> </li> </ol> </li> </ol> <p>B. Products approved for Type B coatings:</p> <ol style="list-style-type: none"> <li>1. Themec <ol style="list-style-type: none"> <li>a. New manhole <ol style="list-style-type: none"> <li>i. Lining: Series 434 Perma-Shield H<sub>2</sub>S (125 mils)</li> <li>ii. Topcoat/Gelcoat: Series 435 Perma-Glaze (15 mils)</li> </ol> </li> </ol> </li> </ol>

				<p>(backrolling when applied over Series 434)</p> <ul style="list-style-type: none"> <li>b. Existing manhole <ul style="list-style-type: none"> <li>i. Surfaces: Series 218 MortarClad</li> <li>ii. Mortar: Series 219 MortarCast</li> <li>iii. Lining: Series 434 Perma-Shield H<sub>2</sub>S (125 mils)</li> <li>iv. Topcoat/Gelcoat: Series 435 Perma-Glaze (15 mils) (backrolling when applied over Series 434)</li> </ul> </li> </ul> <p>2. Raven</p> <ul style="list-style-type: none"> <li>a. New manhole <ul style="list-style-type: none"> <li>i. Coating: Raven 405 Blue Epoxy Resin (2 coats, 100 mils total)</li> </ul> </li> <li>b. Existing manhole <ul style="list-style-type: none"> <li>i. AquaPoxy HB-1 (fill voids and defects)</li> <li>ii. Mortar: Quadex Hyperform or Strong-Seal Profile Plus mix</li> <li>iii. Coating: Raven 405 Blue Epoxy Resin (2 coats, 100 mils total)</li> </ul> </li> </ul> <p>3. Permacast 10,000 with Dinjer SG Mastic</p> <ul style="list-style-type: none"> <li>a. New manhole <ul style="list-style-type: none"> <li>i. One coat Dinjer SG Mastic coating (80 mils)</li> </ul> </li> <li>b. Existing manhole <ul style="list-style-type: none"> <li>i. Mortar: Permacast 10,000, min. ½ inch (fill voids and defects)</li> <li>ii. Coating: Dinjer SG Mastic coating (100 mils)</li> </ul> </li> </ul> <p>C. Products approved for manhole frame coating:</p> <ul style="list-style-type: none"> <li>1. Tnemec <ul style="list-style-type: none"> <li>a. Series 431 Perma-Shield PL (40 mils)</li> </ul> </li> <li>2. Raven <ul style="list-style-type: none"> <li>a. AQ90 (40 mils)</li> </ul> </li> <li>3. Sprayroq <ul style="list-style-type: none"> <li>a. Spraywall polyurethane coating (40 mils)</li> </ul> </li> </ul>
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				<p>1.4 REFERENCES</p> <p>A. Referenced Specifications: The Hampton Roads Planning District Commission (HRPDC) Regional Construction Standards (5<sup>th</sup> edition) shall apply for related work not specifically covered under these specifications. Related work may include, but is not necessarily limited to, Clearing and Grubbing, Earthwork, Pavement Demolition, Pavement Patch, Maintaining Traffic, Topsoil, Seeding, Sodding, Planting, By-Pass Pumping, etc. Where these specifications differ from the HRPDC Regional Construction Standards, these specifications shall govern.</p> <p>B. ASTM D638 – Tensile Strength of Plastics.</p> <p>C. ASTM D790 – Flexural Properties of Un-reinforced and Reinforced Plastics.</p> <p>D. ASTM D695 – Compressive Properties of Rigid Plastics.</p> <p>E. ASTM D4414 – Wet Film Thickness by Notched Gages.</p> <p>F. ASTM D4541 – Pull-off Strength of Coatings Using a Portable Adhesion Tester.</p> <p>G. ASTM D2584 – Volatile Matter Content. - Zero Volatile Organic Compound.</p> <p>H. ASTM D2240 – Durometer Hardness, Type Shore D.</p> <p>I. ASTM D543 – Resistance of Plastics to Chemical Reagents.</p> <p>J. ASTM C579 – Compressive Strength of Chemically Setting Silicate and Silica Chemical Resistance Mortars.</p> <p>K. ASTM – The published standards of the American Society for Testing and Materials, West Conshohocken, PA.</p> <p>L. NACE – The published standards of National Association of Corrosion Engineers (NACE International), Houston, TX.</p> <p>M. SSPC – The published standards of the Society of Protective Coatings, Pittsburgh, PA.</p> <p>1.5 QUALITY ASSURANCE</p> <p>A. Contractor shall initiate and enforce quality control procedures consistent with applicable ASTM and NACE standards together with pull testing and vacuum testing to assure a high quality project.</p>
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				<p>B. Repair product(s) shall be fully compatible with coating product(s) including ability to bond effectively, thereby forming a composite system.</p> <p>C. The Owner will inspect the manholes after surface preparation and after coating application to evaluate the Contractor’s work.</p> <p>1.6 DELIVERY, STORAGE, AND HANDLING</p> <p>A. Materials are to be kept dry, protected from weather and stored under cover.</p> <p>B. Protective coating materials are to be stored at temperatures consistent with the manufacturer’s recommendations. Do not store near flame or strong oxidants.</p> <p>C. Protective coating materials are to be handled according to their MSDS.</p>
822	Manhole Rehabilitation	822-2	1.2.C	<p>Delete and replace with the following:</p> <p>C. The Contractor for the manhole rehabilitation must have a minimum of three (3) years experience using the proposed product in at least 200 manholes and at least 2,000 vertical linear feet. All Contractor employees and/or subcontractors performing Work on the manhole rehabilitation must be certified by the manhole rehabilitation system supplier as qualified to perform Work with the proposed product. Contractor shall provide documentation of product certification and references for at least five (5) rehabilitation jobs in the last three (3) years. Information shall include:</p> <ol style="list-style-type: none"> <li>1. A description of the job (including the liner method used and vertical feet of liner installed).</li> <li>2. The location of the job.</li> <li>3. The value of the job.</li> <li>4. The Owner.</li> <li>5. Contact for the job including name, title, address, and phone number.</li> </ol>
822	Manhole Rehabilitation	822-3	2.2.B	<p>Change  “... (minimum 1200 psi).”  to  “... (minimum 1200 psi or manufacturer recommended pressure if higher).”</p>

822	Manhole Rehabilitation	822-3	2.2.B	Change “... Section 200 - Products and Materials.” to “... Section 200 - Products and Materials and approved by the selected lining system manufacturer.”
822	Manhole Rehabilitation	822-3	2.2.D	Replace “D. After all preparation....” with “D. For manholes with deterioration greater than 1-½ inch or greater from the original thickness at any section of the manhole, Contractor shall use a cement mix or epoxy mortar, as approved by the manufacturer, to rebuild the manhole to its original thickness prior to installation of the liner system. The cement mix or epoxy mortar shall be hand troweled with a smooth finish and shall be in accordance with Section 200 - Products and Materials. The selected liner system manufacturer may recommend an alternative equivalent product, at no additional cost to the Owner, with a signed letter of certification to be approved by the Owner prior to liner installation.  E. After all preparation....”
822	Manhole Rehabilitation	822-3	2.2.E	Change “E. Any bench....” to “F. Any bench....”
822	Manhole Rehabilitation	822-3	2.2.F	Change “F. Invert Repair:” to “H. Invert Repair:”  Add:  Prior to applying the lining system to the manhole walls and performing bench and invert work, provide flow control including but not limited to flow-through plugs and temporary plugs per Section 812 - Bypass Pumping.

822	Manhole Rehabilitation	822-3	2.2	<p>Add:</p> <p>G. Bench Rebuild:</p> <ol style="list-style-type: none"> <li>1. For manholes identified in the Contract Documents as requiring bench rebuild, remove existing loose and/or deteriorated concrete from the bench.</li> <li>2. All surfaces shall be free of dirt, oil, grease, laitance, and other contaminants. Remove all unsound concrete. Use a high-pressure washer to remove all foreign materials from the sewer manhole bench area prior to applying the cement material. Use a minimum of 3,500 psi at 2-½ gallons per minute. Wash the bench area thoroughly over the repair or damaged area.</li> <li>3. The volume of material needed to build spring line and full pipe benches varies greatly. Contractor shall determine volume of material needed to complete repair. Dampen the manhole bench surface area, and allow no noticeable free water droplets or running water to remain. Set form boards as needed.</li> <li>4. Beginning at the edge of the bench and channel, apply the cement material in one layer up to and around to the wall. Place the cement material along the wall to include the top edge of the bench area. Apply the cement material in such a manner so as to produce a gradual slope to the bottom of the wall. Build the bench up to a uniform height at the circumference. Insure that the thickness of the bench shall increase by no less than 1 inch per foot from the top of the channel and continue in the direction of the wall so as to provide the required slope.</li> <li>5. Place the cement in any voids or damaged areas in the channel. Level and smooth the surface to ensure smooth hydraulic conditions.</li> <li>6. Invert repair shall be performed on all inverts with visible damage or infiltration. After blocking flow through the manhole and thoroughly cleaning invert, the quick-setting infiltration control mix shall be applied to the invert. The mix shall be troweled uniformly onto the damaged invert extending out onto the base of the manhole sufficiently to tie into the structural/structurally enhanced monolithic liner to be</li> </ol>
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				<p>applied. The finished invert surfaces shall be smooth and free of ridges.</p> <p>7. Allow the cement material to set approximately 60 minutes, and then provide four to six (4-6) hours cure time before subjecting the rebuilt bench to active flow. Prevent direct impingement of water for no less than 24 hours. Contact a Standard Cement Materials representative for help with this product selection and information.</p>
822	Manhole Rehabilitation	822-3	2.2.G	Change “G. Watertight Seal...” to “I. Watertight Seal...”
822	Manhole Rehabilitation	822-3	2.2.H	Delete.
822	Manhole Rehabilitation	822-5	2.2.H	Delete.
822	Manhole Rehabilitation	822-5	2.2.I	Delete.
822	Manhole Rehabilitation	822-6	2.4	Delete and replace with the following:  “The Contractor shall remove all steps. Removal shall consist of removing all step material, including material embedded in manhole wall. Wall voids created by step removal shall be repaired in accordance with Paragraph 2.2 of this Specification and at no additional cost to the project. Contractor shall be responsible for proper disposal of steps and waste material created by step removal and associated wall repair.”
822	Manhole Rehabilitation	822-6	2.5.B	Delete and replace with the following:  “The Contractor shall remove and dispose of the existing manhole frames, covers, and chimneys as specified in the Contract Documents. It shall be the responsibility of the Contractor, at no additional cost to the Owner, to repair any damage to the corbel caused by the removal of the existing manhole frame and chimney. In the event the Contractor causes damage to corbel during the repair, the Contractor shall repair corbel at no additional cost to the Owner.”

822	Manhole Rehabilitation	822-6	2.5.C	Change “... and the <i>Regional Construction Standards</i> Standard Details.” to “... and Section 110 - Special Provisions.”
822	Manhole Rehabilitation	822-6	2.5.D	Change “1. In Paved Areas:” to “1. In Paved and Maintained Areas:”
822	Manhole Rehabilitation	822-7	2.5.D.1	Add:  g. Chimney (“adjustment”) rings shall be utilized to set the frame and cover to the required grade. Confirm the need for slope rings if matching an existing sloped surface. Set no more than one (1) riser ring such that rim is level with (i.e., within ¼”) of pavement surface.
822	Manhole Rehabilitation	822-7	2.5.D.2	Add:  d. Rim elevation shall be a minimum of 12 inches and maximum of 24 inches above grade. Installation of riser rings is prohibited.
822	Manhole Rehabilitation	822-7	2.5.D.4	Change last sentence to read as follows:  “The manhole frame shall be sealed using a Cretex internal frame seal.”
822	Manhole Rehabilitation	822-7	2.7	Change “2.7 FINAL ACCEPTANCE” to “2.8 FINAL ACCEPTANCE”
822	Manhole Rehabilitation	822-7	2.7	Add:  2.9 SPECIAL WARRANTY  The Contractor shall provide an unconditional ten year written warranty from the date of completion for materials, workmanship, resistance against deterioration, failure to maintain an infiltration free surface or pipe/wall interface, or other lining failures. All defects discovered within this period, as determined by the Owner, shall be repaired or replaced in a satisfactory manner, and within a reasonable timeframe, at no cost to the Owner.

822	Manhole Rehabilitation	822-7	2.6	<p>Delete and replace with the following:</p> <p>2.6 MANHOLE FRAME REHABILITATION</p> <p>A. The Contractor shall remove and reinstall the manhole cover, and remove and dispose of the dust cover.</p> <p>B. The Contractor shall clean the exposed surfaces of the manhole frame per coating manufacturer's recommendations and apply frame coating prior to installing chimney internal mechanical seal/chemical sealant.</p> <p>C. After coating has cured and as specified on the Drawings, Contractor shall parge chimney and prepare bottom three inches (3") of frame for application of internal chimney chemical sealant.</p> <p>2.7 MANHOLE FRAME SEALING</p> <p>The manhole frame and the chimney above the cone shall be parged and sealed in accordance with manufacturer's recommendation and the Contract Documents. The seal between the frame and manhole chimney/cone shall be addressed as a minor leak per paragraph 2.2.C.</p>
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## SECTION 01151

### MEASUREMENT AND PAYMENT

#### I. GENERAL

##### 1.1 MEASUREMENT OF QUANTITIES

- A. Measurement of quantities will be made by the Contractor in the presence of the Owner. The methods of measurement and computations used in determination of quantities of materials furnished and installed shall be those generally recognized as good engineering practice. Final payment request shall include all totals and approved change orders.
- B. Area measurements shall be measured on a horizontal plane of the ground surface. Pay quantities will not exceed plan dimensions except as approved by the Owner or his representative.
- C. Structure measurements shall be in accordance with the Contract Documents except as approved by the Owner or his representative.
- D. Linear foot measurements shall be measured along the horizontal plane of the ground or paved surface. Vertical foot measurements shall be measured along the vertical plane, perpendicular to the horizontal plane of the ground or paved surface. Pay quantities will not exceed plan dimensions except as approved by the Owner or his representative.
- E. Volume computations of excavation and fill shall use the average-end-area method.
- F. Weight measurement shall be made based on Owner-approved supplier delivery tickets submitted documenting the amount of material delivered in each truckload and the specific location by recorded plan station utilized. Pay measurement for delivery weights shall not exceed plan dimensions and shall be based on the average bulk density of the material as established in the Contract Documents.
- G. The term "Each" when used as an item of payment will mean complete payment for the unit of the work described.
- H. The word "Lump Sum" when used as an item of payment will mean complete payment for work described in the item including all materials, labor, and equipment necessary to complete the work in accordance with the Contract Documents.
- I. The term "complete in place" will mean that the item of work shall be furnished and installed in accordance with the Contract Documents complete with all appurtenances necessary for the item to be used for its intended function, including all materials, labor and equipment.

##### 1.2 SCOPE OF PAYMENT

- A. The Contractor will receive and accept compensation provided for in the Contract as full payment for furnishing all materials, labor, tools, and equipment and for performing all Work under the Contract in a complete and acceptable manner and for all risk, loss, damage, or expense of whatever character arising out of the nature of the Work or the prosecution thereof, subject to the provisions of the Contract Documents.

- B. If any unit price in the Bid Schedule requires that the said unit price cover and be considered compensation for certain Work or material essential to the item, this same Work or material will not also be measured or paid for under any other pay item identified on the Bid Form.

### 1.3 PAYMENT ITEMS

- A. Bid Item No. 1 – Mobilization, Complete. Mobilization will be measured on the basis of completion of the Work in accordance with the Contract Documents and this Section. Mobilization will be paid for at the contract lump sum price up to 5% of all other applicable bid items as indicated on the Bid Form. No additional payment will be made for demobilization and remobilization because of shutdowns, suspensions of work, or other mobilization activities. An initial payment of 50% of the mobilization bid item, less retainage, will be made as an initial progress payment once the Work commences on-site, as determined by the Owner. The final 50%, less retainage, will be made upon satisfactory demobilization as determined by the Owner.
- B. Bid Item Nos. 2 through 5, inclusive – Erosion and Sediment Control Measures, Installed Complete in Place. Erosion and sediment control measures will be measured and paid for based on the unit and unit price indicated on the Bid Form for each measure. The cost of each unit shall include all materials, equipment, and labor required to furnish, install, maintain, and remove the erosion and sediment control measures, disposal of any and all accumulated silt and debris, as well as the removal and disposal of erosion and siltation control measures themselves. Surface restoration required as a result of erosion and sediment control shall be considered incidental to erosion and sediment control.
- C. Bid Item No. 6 – Undercut Excavation with Bedding Backfill as directed by Owner. When directed and authorized by Owner, replacement of unsuitable bearing material will be measured and paid for based on the cubic yards of undercut actually excavated in accordance with Section 303, “Earthwork.” Measurement shall be based on the following details as shown on the Contract Drawings:
1. Trench width details for payment of contingent items (Sheet G-5); and
  2. Select material backfill pay quantities (Sheet G-5).
- No payment will be made for material excavated and replaced as a result of native material becoming unsuitable due to acts of Contractor. Payment will include, but is not limited to, the cost of the following:
1. Excavation.
  2. Disposal of unsuitable material.
  3. Furnishing and installation of bedding in accordance with the Contract Documents.
- D. Bid Item Nos. 7 and 8 – Select Material, Type II – Sand and Type II – Stone as directed by Owner. Select Material Type II – Sand and Type II – Stone shall be in accordance with Section 200, “Products and Materials,” and Section 110, “Special Provisions.” When directed and authorized by Owner in accordance with Section 303 2.2.E.3, replacement of unsuitable backfill material with select material will be paid for at the unit price bid per ton of backfill satisfactorily installed. Select material will be measured based on the following details and as otherwise specified in the Contract Documents.
1. Trench width details for payment of contingent items (Sheet G-5); and

2. Select material backfill pay quantities (Sheet G-5).

No payment will be made for material excavated and replaced as a result of native material becoming unsuitable due to acts of Contractor. Payment will include, but is not limited to, the cost of the following:

1. Disposal of unsuitable material.
2. Furnishing and installation of Select Material Type II – Sand and Type II – Stone in accordance with the Contract Documents.

- E. Bid Item No. 9 – Miscellaneous Unclassified Excavation as Directed by Owner. When directed and authorized by Owner to excavate beyond plan dimensions, in a manner not measured or paid for as a separate Bid Item, miscellaneous unclassified excavation will be measured and paid for based on the cubic yards of excavation. Measurement shall be based on the details listed below and as required in the Contract Documents. Volumes shall be calculated as described above; payment height shall be the vertical distance measured between the plan elevation of the excavation bottom, measured horizontally at 25' maximum intervals for trenches, to the agreed upon extents of the excavation, or other measurement method as agreed to by Owner.

1. Trench width details for payment of contingent items (Sheet G-5); and
2. Select material backfill pay quantities (Sheet G-5).

No payment will be made for additional excavation and replacement material placed as a result of native material becoming unsuitable or excavation necessary due to acts of Contractor. Payment shall include excavation, shoring, backfill, compaction, grading, non-roadway surface restoration, disposal of materials, and incidental Work.

- F. Bid Item No. 10 – Aggregate Base Material, Complete in Place. Aggregate base material shall be placed as directed by Owner and shall be measured and paid for based upon the ton of aggregate base satisfactorily installed. Measurement for aggregate base material will be based on the presentation of delivery tickets to Owner. Each ticket will be serial numbered and shall list the name of the company supplying the material, truck identification number, date of delivery, size of load, and project location where delivered. Payment shall include all materials, equipment, and labor required to furnish, haul, place, manipulate, and compact the aggregate base material in accordance with these specifications and the Contract Documents.

Prior to delivery of materials, contractor shall submit a certification of scales calibration from the materials provider(s). Certification shall be considered valid only if the date of calibration is within 180 days of the Bid opening.

- G. Bid Item No. 11 – Prime Coat Over Trench Prior to Reconstruction, Complete in Place. Measurement for prime coat over trench shall be made in linear feet as specified. Payment will be made at the unit price bid per linear foot as stated on the Bid Form, complete in place, including all materials, equipment, and labor required to furnish and install prime coat over trench including compaction, prime coat, sand cover, maintenance and replacement of aggregate base and prime materials with sand cover as required, traffic control, and all other Work incidental thereto, until final pavement is placed.

- H. Bid Item No. 12 – Reconstructed Asphalt Pavement, Complete in Place. Measurement will be made at the unit price bid per square yard of reconstructed asphalt pavement suitably placed in accordance with the Contract Documents. Payment at the unit price

bid shall include all work necessary and incidental to reconstructing asphalt pavement including, but not limited to:

1. Furnishing, hauling, placing, manipulating, and compacting the asphalt pavement material.
  2. Milling and compaction of milled material and newly placed aggregate base materials.
  3. Edge clipping.
  4. Asphalt prime coat.
  5. Shoulder restoration.
  6. Tie-ins with all existing driveways regardless of type.
- I. Bid Item No. 13 – Concrete Driveway Restoration at Main Line or Lateral Crossing, Complete in Place. Measurement will be made at the unit price bid per linear foot as specified. Concrete driveway restoration at perpendicular mainline or lateral crossing shall be measured to the limits of payment specified for each type of pipeline or to the linear limit of driveway actually restored, whichever is less. Payment will be made at the unit price bid per linear foot, complete in place, for concrete driveway restoration at perpendicular mainline or lateral crossing in accordance with Contract Documents or as directed by Owner. Payment at the unit price bid shall include all Work necessary and incidental to concrete driveway restoration including furnishing, hauling, placing, manipulating, and vibrating the concrete material, matching and saw cutting of existing concrete, removal and disposal of existing and temporary materials, construction joint(s), steel reinforcement, formwork, tie-in to existing pavement, surface treatments, protection, and pavement markings.
- J. Bid Item No. 14 – Exposed Aggregate Concrete Driveway Restoration at Main Line or Lateral Crossing, Complete in Place. Measurement will be made at the unit price bid per linear foot as specified. Exposed aggregate concrete driveway restoration at perpendicular mainline or lateral crossing shall be measured to the limits of payment specified for each type of pipeline or to the linear limit of driveway actually restored, whichever is less. Payment will be made at the unit price bid per linear foot, complete in place, for exposed aggregate concrete driveway restoration at perpendicular mainline or lateral crossing in accordance with the Contract Documents or as directed by Owner. Payment at the unit price bid shall include all Work necessary and incidental to exposed aggregate concrete driveway restoration including furnishing, hauling, placing, manipulating, and vibrating the concrete material, matching and saw cutting of existing pavement, removal and disposal of existing and temporary materials, construction joint(s), steel reinforcement, formwork, tie-in to existing pavement, surface treatments, protection, and pavement markings.
- K. Bid Item No. 15 – Asphalt Driveway Restoration at Main Line or Lateral Crossing, Complete in Place. Measurement will be made at the unit price bid per linear foot as specified. Asphalt driveway restoration at perpendicular mainline or lateral crossing shall be measured to the limits of payment specified for each type of pipeline or to the linear limit of driveway actually restored, whichever is less. Payment will be made at the unit price bid per linear foot, complete in place, for asphalt driveway restoration at perpendicular mainline or lateral crossing in accordance with the Contract Documents or as directed by Owner. Payment at the unit price bid shall include all Work necessary and incidental to asphalt driveway restoration including furnishing, hauling, placing, manipulating, and compacting the pavement material, testing, matching and saw cutting

of existing pavement, edge clipping, removal and disposal of existing and temporary materials, asphalt tack coat, tie-in to existing pavement, and pavement markings.

- L. Bid Item No. 16 – Aggregate Driveway Restoration, Complete in Place. Aggregate driveway restoration material shall be measured and paid for based upon the ton of aggregate satisfactorily installed. Measurement for aggregate driveway restoration will be based on the presentation of delivery tickets to Owner. Each ticket will be serial numbered and shall list the name of the company supplying the material, truck identification number, date of delivery, size of load, and project location where delivered. Payment shall include all materials, equipment, and labor required to match, furnish, haul, place, manipulate, and compact the aggregate material in accordance with the Contract Documents.

Prior to delivery of materials, contractor shall submit a certification of scales calibration from the materials provider(s). Certification shall be considered valid only if the date of calibration is within 180 days of the Bid opening.

- M. Bid Item No. 17 and 18 – 4-inch, 6-inch PVC Gravity Sewer Lateral Replacement, Installed Complete in Place. Gravity sewer lateral replacement will be measured from the centerline of the sewer main to a vertical sawcut of the lateral 4.0 feet away from the sewer main centerline. Measurement will be based on linear footage in the horizontal plane in accordance with the Contract Documents regardless of depth. Payment at the unit price bid shall include all Work necessary and incidental to lateral replacement including, but not limited to, the following:

1. Saw cutting pavement and pavement removal for trench excavation.
2. Stripping and stockpiling topsoil.
3. Bedding as detailed on the plans and required by the Contract Documents.
4. Gravity sewer pipe, fittings, adapter, and appurtenances.
5. Tracer wire and subsurface marking tape.
6. Flushing.
7. Testing.
8. Geotextile fabrics or matting.
9. Maintenance, restoration, and replacement of utility lines disturbed or otherwise displaced during construction.
10. Temporary and final restoration in the right-of-way and easements of shoulders and grade surface features including drainage ditches, culverts, curb, gutter, topsoil, seeding, and plantings.
11. Concrete-lined ditch replacement and/or restoration.

- N. Bid Item Nos. 19 and 20 – 4-inch, 6-inch PVC Gravity Sewer Lateral Cleanout Assembly, Installed Complete-in-Place. Lateral cleanouts will be measured based upon each installed in accordance with the Contract Documents and satisfactorily tested. Cleanouts will be paid for at the unit price bid and shall include all Work necessary and incidental including, but not limited to, the following:

1. Excavation outside trench limits.
2. Bedding as detailed on the plans and required by the Contract Documents.
3. Geotextile fabrics or matting.
4. All fittings, caps, pipe, and necessary appurtenances.
5. Cleanout box, frame, and cover with bedding stone.
6. Tracer wire and subsurface marking tape.

7. Temporary and final restoration in the right-of-way and easements of shoulders and grade surface features including drainage ditches, culverts, curb, gutter, topsoil, seeding, and plantings.
- O. Bid Item No. 21 – Heavy Duty Sanitary Cleanout Frame and Cover, Installed Complete-in-Place. Heavy duty cleanout frames and covers will be measured based upon each installed in accordance with the Contract Documents. Heavy duty cleanout frames and covers will be paid for at the unit price bid and shall include all Work necessary and incidental including, but not limited to, the cleanout frame and cover with bedding stone.
- P. Bid Item Nos. 22 and 23 – 4-inch, 6-inch Gravity Sewer Lateral CIPP T-Liner, Installed Complete in Place. Four-inch and six-inch T-liners for gravity sewer laterals connected to the gravity sewer main will be measured based upon each installed in accordance with the Contract Documents regardless of depth, length, or material. Payment at the unit price bid shall include all Work necessary and incidental to sewer lateral CIPP lining including, but not limited to:
1. Cleaning and pre-lining CCTV inspection.
  2. Repair of significant inflow/infiltration defects that would adversely impact curing of the liner.
  3. Installation and curing of liner.
  4. Cooling and disposal of cure water (if water-cured).
  5. Testing and post-lining CCTV inspection.
  6. Maintenance, restoration, and replacement of utility lines disturbed or otherwise displaced during construction.
  7. Temporary and final restoration in the right-of-way and easements of shoulders and grade surface features including drainage ditches, culverts, curb, gutter, topsoil, seeding, and plantings.
- Q. Bid Item Nos. 24 and 25 – 4-inch, 6-inch Gravity Sewer Lateral CIPP Tube Liner, Installed Complete in Place. Four-inch and six-inch tube liners for gravity sewer laterals connected to manholes, or connected to the gravity sewer main where installation of T-liner is not feasible per Owner, will be measured based upon each installed in accordance with the Contract Documents regardless of depth, length, or material. Payment at the unit price bid shall include all Work necessary and incidental to sewer lateral CIPP lining including, but not limited to:
1. Cleaning and pre-lining CCTV inspection.
  2. Repair of significant inflow/infiltration defects that would adversely impact curing of the liner.
  3. Installation and curing of liner.
  4. Cooling and disposal of cure water (if water-cured).
  5. Testing and post-lining CCTV inspection.
  6. Maintenance, restoration, and replacement of utility lines disturbed or otherwise displaced during construction.
  7. Temporary and final restoration in the right-of-way and easements of shoulders and grade surface features including drainage ditches, culverts, curb, gutter, topsoil, seeding, and plantings.
- R. Bid Item Nos. 26, 27, and 28 – 6”-, 8”-, and 12”-DI Casing Pipe, Installed Complete-in-Place. Ductile Iron casing pipe installed at special, ditch, and storm sewer crossings will be measured based upon the linear foot of casing pipe satisfactorily installed in

accordance with the Contract Documents. Casing pipe will be paid for at the unit price bid and will include, but not be limited to, the cost of furnishing and installing the proposed ductile iron casing pipe, excavation, compaction and testing, bedding, end seals, support spacers, and all other Work incidental to the casing installation. Price does not include carrier pipe but does include the installation of the carrier pipe within the casing.

- S. Bid Item No. 29 – Heavy Cleaning, Gravity Sanitary Sewer. Heavy cleaning will be measured based upon the linear foot of gravity sewer main satisfactorily cleaned in accordance with the Contract Documents. Heavy cleaning will be paid for at the unit price bid and will include, but not be limited to, the cost of furnishing the cleaning water, cleaning and re-inspecting the sewer main, and all other Work incidental to heavy cleaning.
- T. Bid Item Nos. 30 and 31 – 8-Inch Gravity Sewer CIPP Lining for Partially/Fully Deteriorated Host Pipe, Installed Complete-in-Place. Gravity sewer mains will be measured from the center of the manhole cover at each end based on linear footage in the horizontal plane in accordance with the Contract Documents regardless of depth or material. Payment at the unit price bid shall include all Work necessary and incidental to sewer main CIPP lining including, but not limited to:
1. Cleaning and pre-lining CCTV inspection.
  2. Repair of significant inflow/infiltration defects that would adversely impact curing of the liner.
  3. Installation and curing of liner.
  4. Cooling and disposal of cure water (if water-cured).
  5. Testing and post-lining CCTV inspection.
  6. Maintenance, restoration, and replacement of utility lines disturbed or otherwise displaced during construction.
  7. Temporary and final restoration in the right-of-way and easements of shoulders and grade surface features including drainage ditches, culverts, curb, gutter, topsoil, seeding, and plantings.
  8. Concrete-lined ditch replacement and/or restoration.
- U. Bid Item No. 32 – 8-Inch Gravity Sewer CIPP Point Repair (4' Length), Installed Complete-in-Place. Gravity sewer CIPP point repairs will be measured based upon each installed in accordance with the Contract Documents regardless of depth, diameter, or material. Payment at the unit price bid shall include all Work necessary and incidental to sewer main CIPP point repair including, but not limited to:
1. Cleaning and pre-repair CCTV inspection.
  2. Repair of significant inflow/infiltration defects that would adversely impact curing of the liner.
  3. Grouting pipe voids per *Regional Construction Standards*.
  4. Installation and curing of liner.
  5. Cooling and disposal of cure water (if water-cured).
  6. Testing and post-repair CCTV inspection.
  7. Maintenance, restoration, and replacement of utility lines disturbed or otherwise displaced during construction.
  8. Temporary and final restoration in the right-of-way and easements of shoulders and grade surface features including drainage ditches, culverts, curb, gutter, topsoil, seeding, and plantings.
  9. Concrete-lined ditch replacement and/or restoration.

- V. Bid Item No. 33 – 8-Inch Gravity Sewer Point Repair (10’ Length) including Tap Replacement, Installed Complete-in-Place. Gravity sewer point repairs will be measured based upon each completed in accordance with the Contract Documents regardless of depth or material. Payment at the unit price bid shall include all Work necessary and incidental to point repair installation including, but not limited to, the following:
1. Saw cutting pavement and pavement removal for trench excavation.
  2. Stripping and stockpiling topsoil.
  3. Disposal of excess material and excavated material unsuitable for placement as fill.
  4. Bedding as detailed on the Contract Drawings and required by the Contract Documents.
  5. Gravity sewer pipe, fittings, adapters, and appurtenances.
  6. Flushing.
  7. Testing.
  8. Temporary seeding and stabilization.
  9. Geotextile fabrics or matting.
  10. Maintenance, restoration, and replacement of utility lines disturbed or otherwise displaced during construction.
  11. Temporary and final restoration in the right-of-way and easements of shoulders and grade surface features including drainage ditches, culverts, curb, gutter, topsoil, seeding, and plantings.
  12. Concrete-lined ditch replacement and/or restoration.
- W. Bid Item No. 34 – 8-inch PVC Gravity Sewer Main, Installed Complete-in-Place. Gravity sewer will be measured based upon the linear footage, in the horizontal plane, of pipe installed in accordance with the Contract Documents and satisfactorily tested regardless of depth. Pipe in place will be paid for at the unit price bid and will include, but is not limited to, the cost of the following:
1. Furnishing and installing the proposed gravity sewer, fittings, and appurtenances.
  2. Connections to existing/proposed manholes.
  3. Saw cutting pavement and pavement removal for trench excavation.
  4. Stripping and stockpiling topsoil.
  5. Bedding as described on the plans and required by the Contract Documents.
  6. Tracer wire and subsurface marker tape.
  7. Temporary and final restoration, in the right-of-way and easements, of shoulders and grade surface features including drainage ditches, culverts, curb and gutter, topsoil, seeding, stabilization, and plantings.
  8. Protection, maintenance, restoration, and replacement of utility lines and other underground facilities (public or private) disturbed or otherwise displaced during construction.
  9. Testing.
- X. Bid Item Nos. 35 and 36 – PVC Gravity Sewer Lateral Internal Drop Assembly, 8-inch PVC Gravity Sewer Main Internal Drop Assembly, Installed Complete-in-Place. Gravity sewer lateral and main internal drop assemblies will be measured based upon each assembly installed in accordance with the Contract Documents regardless of lateral/main diameter and drop height. Each assembly in place will be paid for at the unit price bid and will include, but is not limited to, the cost of the following:

1. Furnishing and installing the proposed drop assembly, fittings, and appurtenances.
  2. Connections to existing laterals/mains at manholes.
  3. Bench modification.
- Y. Bid Item No. 37 – Raised Manhole Frame and Cover, Installed Complete-in-Place. Raising of manhole frame and cover will be measured based upon each frame and cover satisfactorily raised in accordance with the Contract Documents. Raising will be paid for at the unit price bid and will include, but not be limited to, the cost of removing and disposing of existing riser/adjustment rings; furnishing, installing, and sealing new adjustment rings, slope rings, and riser rings if necessary in paved areas; sawcutting of pavement and excavation as necessary; pavement patch; and all other Work incidental to raising manhole frame and cover.
- Z. Bid Item No. 38 – Replacement Manhole Frame and Cover, Installed Complete-in-Place. Replacement manhole frame and cover will be measured based upon each frame and cover satisfactorily replaced in accordance with the Contract Documents. Replacement will be paid for at the unit price bid and will include, but not be limited to, the cost of removal and disposal of pavement and existing frame and cover; excavation; furnishing, installing, cleaning, and sealing new frame and cover; repairs; pavement patch; and all other Work incidental to replacing manhole frame and cover.
- AA. Bid Item No. 39 – Stainless Steel Manhole Insert, Installed Complete-in-Place. Stainless steel manhole insert (“rain cover”) will be measured based upon each insert satisfactorily installed in accordance with the Contract Documents. Insert will be paid for at the unit price bid and will include, but not be limited to, the cost of measuring frame and cover, furnishing and installing insert, and all other Work incidental to manhole insert.
- AB. Bid Item No. 40 – PVC Manhole Vent, Installed Complete-in-Place. PVC manhole vent will be measured based upon each vent satisfactorily installed in accordance with the Contract Documents. Vent will be paid for at the unit price bid and will include, but not be limited to, the cost of furnishing and installing vent, appurtenances, and attachments; and all other Work incidental to manhole vent.
- AC. Bid Item No. 41 – Manhole Chimney Interior Mechanical Seal, Installed Complete-in-Place. Manhole chimney interior mechanical seal will be measured based upon each seal up to 10 inches wide satisfactorily installed in accordance with the Contract Documents. Seal will be paid for at the unit price bid and will include, but not be limited to, the cost of measuring chimney dimensions; cleaning and preparing chimney from three inches (3”) below chimney to the full depth of manhole frame casting; applying protective coating to cleaned manhole frame casting that is not replaced; removal and disposal of dust cover; furnishing and installing seal; and all other Work incidental to mechanical seal.
- AD. Bid Item No. 42 – Manhole Chimney Interior Parging and Chemical Sealant, Installed Complete-in-Place. Manhole chimney interior parging and chemical sealant will be measured based upon each manhole chimney satisfactorily sealed in accordance with the Contract Documents. Parging and sealant will be paid for at the unit price bid and will include, but not be limited to, the cost of measuring chimney dimensions; cleaning and preparing chimney from three inches (3”) below chimney to the full depth of manhole frame casting; applying protective coating to cleaned manhole frame casting that is not replaced; removal and disposal of dust cover; parging interior of chimney to provide

smooth transition from frame inner diameter to chimney inner diameter; furnishing and installing sealant; disposal of waste and excess material; and all other Work incidental to parging and chemical sealant.

AE. Bid Item No. 43 – Parge Manhole Exterior and Apply Cement Layer, Installed Complete-in-Place. Parge manhole exterior and apply cement layer will be measured based upon each manhole exterior satisfactorily parged and coated in accordance with the Contract Documents. Manhole parge and cement layer will be paid for at the unit price bid and will include, but not be limited to, the cost of removal and disposal of exterior manhole seal material, cleaning of manhole exterior to a depth six inches (6”) below grade, furnishing and installing cement layer, disposal of waste and excess material, and all other Work incidental to manhole parge and cement layer.

AF. Bid Item No. 44 – 4-foot Sanitary Sewer Manhole Abandonment, Complete. Manhole abandonment will be measured based upon each manhole abandoned in accordance with the Contract Documents regardless of depth. Manhole abandonment will be paid for at the unit price bid and will include, but is not limited to, the cost of the following:

1. Formwork, whether temporary or permanent, for CIPP liner installed through manhole.
2. Furnishing and installing flowable fill and concrete cap.
3. Removal and disposal of manhole sections and appurtenances to be abandoned.

AG. Bid Item Nos. 45 and 46 – 4-foot/5-foot Sanitary Sewer Manhole Rehabilitated with Epoxy Coating, Complete-in-Place. Manhole rehabilitation with epoxy coating will be measured based upon each manhole rehabilitated in accordance with the Contract Documents regardless of depth. Manhole rehabilitation with coating will be paid for at the unit price bid and will include, but is not limited to, the cost of the following:

1. Flow control.
2. Root removal.
3. Removal of steps.
4. Removal of loose and unsound material.
5. Cleaning and preparation of manhole surface to be coated.
6. Manhole structure and/or bench and invert reconstruction.
7. Furnishing and installing manhole coating.
8. Testing.
9. Disposal of excess and waste material.

AH. Bid Item No. 47 – 5-foot Sanitary Sewer Manhole Replacement, Installed Complete-in-Place. Sanitary sewer manhole replacement will be measured based upon each installed in accordance with the Contract Documents regardless of depth. Payment at the unit price bid shall include all Work necessary and incidental to manhole replacement including, but not limited to, the following:

1. Flow control.
2. Removal and disposal of 4-foot manhole and external drop connection.
3. Furnishing, installing, and sealing 5-foot manhole.
4. Gravity sewer main cut-back from and reconnection to manhole.
5. Furnishing and installing internal drop connection.
6. Drop connection pipe, fittings, adapter, and appurtenances.
7. Installing bench as detailed on the Contract Drawings.

8. Testing.
9. Disposal of surplus, excess, and waste materials.
10. Maintenance, restoration, and replacement of utility lines disturbed or otherwise displaced during construction.
11. Temporary and final restoration in the right-of-way and easements of shoulders and grade surface features including drainage ditches, culverts, curb, gutter, topsoil, seeding, and plantings.

#### 1.4 PAYMENT

- A. Measurement of the several Bid Items listed on the Bid Form will be in the units indicated. No measurement will be made until the item has been installed and accepted as complete by the Owner and the Owner's Representative.
- B. Payment at the unit price bid shall constitute full compensation for furnishing all labor, material, and equipment required for provision of the item in accordance with the Contract Documents.

### **II. PRODUCTS**

NOT APPLICABLE TO WORK IN THIS SECTION

### **III. EXECUTION**

NOT APPLICABLE TO WORK IN THIS SECTION

**END OF SECTION 01151**

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## SECTION 02224

### CONSTRUCTION MATS

#### 1.0 GENERAL

##### 1.1. Description of Work

The Contractor shall furnish all labor, materials, equipment and supplies, and shall perform all work necessary for providing and utilizing construction mats as specified herein.

##### 1.2. Submittals

Submittals shall be made in accordance with Section 01300: Submittals and as described below:

A. Submit each manufacturer's and/or supplier's certification attesting that the mats meet or exceed the specified requirements. The following information is to be shown on each certificate:

1. Name of the project and location of the work.
2. Name and address of Contractor.
3. Quantity and date or dates of shipment and/or delivery to which the certificate applies.

B. Certifications shall be in the form of a letter or company-standard form containing all required data and signed by an authorized agent of the manufacturer/supplier.

##### 1.3. Design

Construction mats shall be designed and fabricated to limit ground surface pressure to 2000 pounds per square foot for the maximum applied load stipulated by the Contractor. Criteria presented in Section 2.0 PRODUCTS below shall be considered minimum requirements.

Calculations shall be provided showing the maximum Contractor stipulated load and the basis for computation of the ground surface loading.

#### 2.0 PRODUCTS

##### 2.1 Laminated Mats

A. Laminated mats shall be constructed with a minimum of two (2) alternating layers. Boards shall be hardwood, minimum two inches (2") rough-cut or 6/4 planed thickness.

B. Laminated mat layers shall be securely fastened together from each side by bolting or bolting and clinch nailing. Clinch nails shall be screw shank, minimum three inches (3"). Bolts shall be minimum 3/8-inch extending through all layers.

C. Laminated mats shall be minimum eight (8) feet wide by maximum 16 feet long.

- D. Laminated mats may be new or used but shall be graded sound, square edge, with no waness and no open defects.

## 2.2 Hardwood Mats

- A. Hardwood mats shall be fabricated of minimum six inches (6") rough-cut thickness hardwood timbers.
- B. Hardwood mats shall be securely fastened together with steel rods, counter sunk on each side of the mat. Rods shall be minimum 7/8-inch diameter extending through all layers, minimum four (4) rods per mat.
- C. Hardwood mat shall be minimum eight (8) feet wide by maximum 16 feet long.
- D. Hardwood mats may be new or used but shall be graded sound, square edge, with no waness and no open defects.

## 2.3 Double Track Mats

- A. Double track mats shall be constructed with a minimum of three (3) alternating layers of minimum two inches (2") rough-cut thickness x eight inches (8") wide hardwood boards.
- B. Double track mat boards shall be securely fastened together by through bolting all layers at each board crossing. Bolts shall be a minimum one-half inch (1/2") diameter.
- C. Double track mats shall be minimum eight (8) feet wide by maximum 16 feet long.
- D. Double track mats shall have a minimum blind surface area of 75 square feet for 14 feet length and shorter and 85 square feet for over 14 feet length.

## 3.0 EXECUTION

### 3.1. General

- A. Construction mats shall be required to be placed along the entire active dam crest length of the project. No Contractor vehicles shall be permitted to drive on the dam crest other than supported on construction mats as specified herein.

### 3.2. Procedure

- A. Construction mats shall be placed in advance of any vehicular traffic or equipment traversing the dam crest. Mats shall be placed on the existing travelway wherever possible. When mats are required to be placed to the side of the dam crest travelway, additional mats or wider mats shall be provided to protect the dam crest from accidental vehicle loads.
- B. Bridging timbers that can adequately support the vehicle loads will be permitted between mats to span small gaps resulting where the mats are placed on a curvature or at bends in

the alignment. Mats shall be arranged so that vehicle wheel/track loads will always be supported on a mat or bridging timbers.

- C. Upon completion Work, Contractor shall remove the construction mats and timbers from the job. No construction mats or timbers shall be permitted to remain after completion of the Work.

#### **4.0 MEASUREMENT FOR PAYMENT**

##### **4.1. General**

- A. Matting is considered incidental to the cost of the project.

##### **4.2. Measurement of Quantities**

- A. No measurement of quantities is required.
- B. Payment for construction matting shall be included in the cost of the project and shall include cost of labor, materials, and equipment necessary to furnish, install, and maintain the construction mats in serviceable condition.
- C. There shall be no additional compensation for installing new construction matting to replace damaged or unserviceable mats.
- D. No additional compensation shall be paid for complete removal from the project of all construction matting, and satisfactory removal of all construction matting shall be a condition of release of retainage.

**END OF SECTION 02224**

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## SECTION 02956

### SEWER SERVICE LATERAL REHABILITATION BY CIPP LINER

#### I. GENERAL

##### 1.1 SUMMARY

It is the intent of this specification to provide materials and a standard practice for installing a cured-in-place pipe to renew a sewer service lateral that connects to a main pipe rehabilitated by CIPP or directly to a manhole.

##### 1.2 GENERAL

- A. The service lateral reconstruction from the mainline connection to the public cleanout (or public wye for a dual-service connection) shall be accomplished using a translucent inversion bladder, a non-woven fabric tube of particular length that includes a molded hydrophilic compression gasket seal at each end of the tube, a non-woven fabric tee sized for the internal diameter of the sewer main to which the lateral is connected that includes a molded hydrophilic compression gasket seal at each end of the tee, and a thermo-set resin with physical/chemical properties appropriate for the application. The use of hydrophilic paste/caulk shall be prohibited.
- B. The tube is positioned inside of a translucent inversion bladder forming a liner/bladder assembly. The tube shall be impregnated with resin under a controlled vacuum within the translucent bladder. The liner/bladder assembly is then inserted into a mobile air-inversion device. The mobile air-inversion device shall include a camera port for inspecting the resin saturated tube inflated in the pipe before the resin is cured, and for visually verifying the liner has been fully deployed and the end is open. Access to an upstream end of the service lateral shall be accomplished by using an existing cleanout or by installing a new cleanout by vacuum excavation.
- C. The mobile air-inversion device shall be aligned with the access opening in the service lateral pipe (manhole, excavated pit, inside cleanout, or outside cleanout). The mobile air-inversion device shall be properly positioned; the liner/bladder assembly shall be inverted into the lateral pipe under controlled air pressure. The liner/bladder assembly shall include a hold back rope for controlling the speed of inversion and protecting plumbing fixture traps in the building by ensuring a positive pressure is not created in the service lateral pipe. The inversion shall be complete when the liner is fully extended within the lateral pipe, with the bladder extending beyond the open end of the liner tube, and with the compression gaskets positioned between the host pipe and the liner.

- D. Verification of installation shall be completed by inserting a lateral camera into a camera port and continuing through the bladder, under pressure, providing visual inspection of the inflated liner tube prior to curing the resin. The inspection process shall verify that the liner is properly positioned in the pipe and that the tube has been fully deployed with the end open. The resin-impregnated tube shall cure per manufacturer's recommendation. The inflation bladder shall then be reverted from the cured tube, and the mobile launching device shall be removed.

### 1.3 FLOW CONTROL

Flow control from the lateral shall follow the manufacturer's recommended methods. Any bypassing in the main line shall follow Section 812 – Bypass Pumping.

### 1.4 CONTRACTOR EXPERIENCE:

The Contractor shall be certified by the product's manufacturer and have a minimum experience of rehabilitating 50 laterals and 100 LF of lateral CIPP.

### 1.5 PRODUCT EXPERIENCE

The product experience shall be minimum of 250 lateral rehabilitations and 2,500 LF of lateral CIPP.

### 1.6 SUBMITTALS

After the award of the Project contract, the Contractor shall submit the items listed below for review and approval. These items may be submitted prior to the notice to proceed for review and approval.

- A. Manufacturer's published literature and published data for the proposed cured-in-place lateral liner system.
- B. Manufacturer's published literature and published data for the proposed hydrophilic gaskets and include test data simulating hydration/dehydration conditions for a minimum period of 10,000 hours and the test results must be successfully demonstrate and document long-term performance without deterioration, loss of material, flexibility, and expansion of the gasket during repeated cycles of hydration and dehydration.
- C. Independent test report showing that the physical properties of the proposed CIPP system meet the requirements of these specifications and the requirements published in the manufacturer's literature. These results must be for field installations in the United States of the same resin system and tube materials proposed for the actual installation.
- D. Written verification confirming that the Contractor is licensed and/or certified by the liner process manufacturer.
- E. The manufacturer's certification that the proposed CIPP lateral liner system for the project meets the requirements of these specifications and will meet or exceed the physical properties

given in the manufacturer's published literature submitted as required by Part A of this subsection.

- F. Calculations supporting recommended liner thicknesses. Design data and specification sheets listing all parameters used in the CIPP liner design and thickness calculations based on ASTM F1216, assuming a fully deteriorated gravity pipe condition. The calculations shall be sealed by a registered Professional Engineer. The data shall include both the sealed calculated thicknesses and the thicknesses proposed to be installed.
- G. Two complete sets of video inspection DVDs from each of the television inspections performed (Pre- and Post-Installation CCTV Inspection), to NAASCO LACP standards.

## **II. PRODUCTS**

### **2.1 ACCURACY OF THE PLANS**

To the greatest practical extent, the plans accurately depict the details of the work, including the locations and numbers of all manholes, etc. However, the Contractor shall determine the locations of all structures and verify all dimensions, including service lateral length, existing fittings and/or bends in the lateral, and diameter of the lateral. The Contractor shall also be aware that minor variations in pipe diameter and circumference will occur, that it is not intended that such minor variations from the standard four-inch (4") lateral be indicated on the plans, and that such variations will not be considered as grounds for additional claims for compensation.

### **2.2 MATERIAL**

- A. Tube – The fabric tube shall consist of flexible needle punched felt, knitted tube or an equivalent non-woven material. The tube may be reinforced by incorporating scrim or fiberglass strands to limit length stretch and improve structural properties. The tube shall be a butt seam constructed by longitudinal stitching and thermal tape seal bonding producing a uniform wall thickness with no intermediate layers. The tube shall be capable of conforming to bends, offset joints, bells, and disfigured pipe sections. A hydrophilic O-ring shall be positioned at each end of the liner tube providing a leak-free compression gasket seal compatible with all piping materials.
- B. Gasket Seals – The gaskets to seal the liner shall be hydrophilic and shall have a minimum of a 180% increase in thickness over 416 days per 100-Hour Insignia Test. The mainline connection shall include a seamless molded flange shaped end seal gasket attached to the main liner by use of stainless steel snaps. The lateral tube shall include an O-ring gasket attached six inches (6") from the upstream terminating end of the lateral tube.
- C. The bladder shall be translucent to enable visual inspection of resin during saturation under a controlled vacuum and inspection of the liner once inflated in the pipe prior to curing of the resin.

- D. Liner/Bladder Assembly – The tube positioned within the translucent bladder shall form a liner/bladder assembly engineered for inserting the liner tube and bladder simultaneously from a single access point maintaining inflation pressure from the initial inversion of the liner tube until the resin is cured.
- E. Resin – The thermo-set resin system shall be polyester or epoxy with proper catalysts as designed for the specific application.
- F. Design Considerations – The design of the cured-in-place lateral liner shall use constraints provided in Table 200-5.21.1, Table 200-5.21.2, Table 200-5.21.3, and Table 200-5.21.4. Structural strength design calculations as per ASTM F1216-09, appendix X1.1..2
- G. Minimum Structural Properties
  - 1. Flexural Strength (ASTM D790) = 4,500 psi
  - 2. Flexural Modulus (ASTM D790) = 350,000 psi
- H. Chemical Resistance – The cured tube shall meet minimum tests standards described in ASTM F1216-09, appendix X2.

### 2.3 APPROVED MANUFACTURERS

- A. LMK Technologies (1779 Chessie Lane, Ottawa, IL 61350)
- B. Or approved equal.

### 2.4 DEFECTIVE WORK

Any defects which, in the judgment of the Owner, will affect the integrity or strength of the lining, shall be repaired or the liner replaced at the Contractor's expense. Obtain approval of the Owner for method of repair, which may require field or workshop demonstration.

### 2.5 FINAL ACCEPTANCE

Upon completion and before acceptance by the Owner, the Contractor shall re-inspect the rehabilitated lateral by the use of closed-circuit TV cameras and shall submit color CDs or DVDs of the rehabilitated pipeline to the Owner for approval/acceptance of the Work in accordance with Section 811 - Television Inspection.

### 2.6 SPECIAL WARRANTY

The Contractor shall provide an unconditional ten year written warranty from the date of completion for materials, workmanship, resistance against deterioration, failure to maintain an infiltration free surface or pipe/wall interface, or other lining failures. All defects discovered within this period, as determined by the Owner, shall be repaired or replaced in a satisfactory manner, and within a reasonable timeframe, at no cost to the Owner.

### III. EXECUTION

#### 3.1 INSTALLATION RECOMMENDATIONS

ASTM F1216-09: Standard Practice for the Installation of Cured In-Place Pipe by Inversion Lining

- A. Coordination – The Contractor shall be responsible to coordinate with the parcel owners/tenants prior, during, and immediately after worked performed. Any parcel owners not wanting to participate shall be reported to the Owner immediately.
- B. Transport – All materials shall be transported and stored per manufacturer’s recommendation. Liner materials shall be labeled and identified with the minimum information
  1. Upstream manhole identification number of the mainline to which the service lateral connects
  2. Downstream manhole identification number of the mainline to which the service lateral connects
  3. Parcel(s) address of the intended lateral the liner shall be installed
  4. Liner material
  5. Resin type to be induced into the liner
- C. Accessing the Pipe – Should a cleanout not exist or the lateral does not directly connect to a manhole, then the Installer shall excavate an access pit or install a cleanout providing access to the lateral pipe per the Owner’s standards.
- D. Cleaning and Inspection – All roots and debris shall be removed from the pipe per manufacturer’s recommendation and a CCTV inspection shall be performed documenting length, diameter and pipe defects as per NASSCO LACP Standards.
- E. Sizing – The tube shall be cut to the appropriate length and inserted within the translucent bladder.
- F. Resin-Impregnated Tube – The tube in good condition shall be impregnated with resin under a controlled vacuum with the appropriate thermo-set resin designed for the pipe and its intended use. All resin shall be contained within the translucent bladder during vacuum impregnation. The Installer shall ensure that no public property is exposed to contamination by liquid resin compounds or components.
- G. Liner Insertion – The resin-impregnated tube within the inflation bladder is inserted into the mobile launching device and positioned at the cleanout, or pipe opening.
- H. Inversion – The liner/bladder assembly shall be inverted out of the mobile launching device by controlled air pressure. At no time shall the air pressure be removed causing interruption to inflation and pressing of the tube. The inversion shall be complete when the tube is fully deployed and the bladder is extending beyond the liner tube keeping the end of the liner open. The tube shall be held tightly against the wall of the host pipe under pressure until the cure is

complete in accordance with ASTM F1216-09 Sections 7.4.2 and 7.4.3: Using Air Pressure. The inversion air pressure shall be adjusted to be of sufficient pressure to cause the impregnated tube to invert from point of inversion to point of termination and hold the tube tight to the pipe wall, producing dimples at side connections and joints. Care shall be taken during the inversion so as not to overstress the woven and nonwoven materials.

- I. Curing – The liner is chemically cured at ambient temperatures or by a suitable heat source per manufacturer’s recommendation. The heating equipment shall be capable of delivering a mixture of steam and air throughout the liner bladder assembly to uniformly raise the temperature above the temperature required to cure the resin. The curing of the CIPP shall follow manufacturer’s recommendation. The heat source temperatures shall be monitored and logged during the cure and cool down cycles. The manufacturer’s recommended cure schedule shall be submitted.
- J. CIPP Processing – Curing shall be done without pressure interruption with air or a mixture of air and steam for the proper duration of time per the resin manufacturer’s recommendations.
- K. Recovery – The bladder is reverted back into the launching device and removed from the manhole, cleanout, or access pit. No barriers, coatings, or any material other than the cured tube/resin composite is to be left in the host pipe. The liner shall be leak-free with each end sealed to the host pipe by means of swelling compression gaskets.
- L. Trimming – Any tube protruding into the main pipe shall be robotically trimmed flush.
- M. Post Inspection – A second CCTV inspection shall be performed documenting liner placement and condition. The owner shall receive a video recording and a written report certified by NASSCO LACP documenting inspection of the CIPP.
- N. Reinstatement of Service – Any side connections shall be reinstated and returned to service, unless otherwise directed by the owner.
- O. Damage in the Field – Any damage or deterioration that occurs during work in the field shall be repaired to equal or better condition by the Contractor with no additional cost to the Owner. Such items include but are not limited to: manhole, mainline, existing service lateral or fittings, clean-outs, roadways, curbing, landscape, or private property shall be repaired to equal or better condition with no additional cost to the Owner.

### 3.2 CLEAN-UP

The site shall be left clean and the property returned to pre-project condition.

### 3.3 PAYMENT

Payment for the Work shall be in accordance with the Contract bid price and Section 01151, “Measurement and Payment.”

**END OF SECTION 02956**

## **APPENDIX A**

### **CONDITION ASSESSMENT**

1. Manhole Checks (December 2010)
2. CCTV Inspections (August - September 2011)

A DVD of manhole check pictures and data sheets, and of CCTV inspection video files, may be obtained from the Public Works office at 105 Service Drive, Yorktown, VA 23692.

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