



CONTRACT SPECIFICATIONS
FOR
RAY STREET AT BROOKS AVENUE
WATER AND SANITARY SEWER REPLACEMENT
SINGLE PRIME CONTRACT
FOR THE
CITY OF ELIZABETH CITY, NORTH CAROLINA

JULY 2024

CDBG Project No's.: 19-I-3648
21-I-4004

EDWARD KIRK RIVERS - MAYOR

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DWAN A. BELL, PUBLIC UTILITIES DIRECTOR



Prepared By:



JOHNSON, MIRMIRAN AND THOMPSON, INC.
at 272 Bendix Road, Suite 260,
Virginia Beach, Virginia, 23452

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TABLE OF CONTENTS
RAY STREET AT BROOKS AVENUE
WATER AND SANITARY SEWER REPLACEMENT
CITY OF ELIZABETH CITY, NORTH CAROLINA

<u>SECTION</u>	<u>PAGES</u>
PROPOSAL-AGREEMENT SECTION	
Advertisement for Bids	C-111
Instruction to Bidders	C-200
Bid Form	C-410
Bid Bond	C-430
Notice of Award	C-510
Agreement Between Owner and Contractor For Construction Contract	C-520
Notice to Proceed	C-550
Performance Bond	C-610
Payment Bond	C-615
Contractor's Application for Payment	C-620
Certificate of Substantial Completion	C-625
General Conditions	C-700
Supplemental Conditions	C-800
Work Change Directive	C-940
Change Order	C-941
Field Order	C-942
Certificate of Insurance	----
Contractor's Affidavit of Release of Liens	----
MBE/WBE Compliance Supplement – Infrastructure (CDBG-I) Program Forms	----
Appendix E - MWBE Documentation for Contract Payments	----
Contract Provisions for CDBG-I Project Contracts, Agreements, and Subcontracts	----
Section 3 Clause	----
Anti-Lobbying Clause	----
Davis-Bacon Wage Determination	----
Davis-Bacon and Labor Standards Agency/Contractor Guide	----
HUD-4010 Federal Labor Standards Provisions	----
Appendix II Part 200 – Contract Provisions for Non-Federal Entity Contracts Under Federal Awards	----

TECHNICAL SPECIFICATIONS

Earthwork

Water Mains and Appurtenances

- Pipe for Water Mains
- Valves and Fire Hydrants for Water Distribution
- Fittings and Couplings for Water Distribution
- 3/4 inch to 2 inch Services for Water Distribution and 3/4 inch to 8 inch Water Meters
- Construction Methods
- Site Work on Water Mains
- Special Provisions

Sanitary Sewer

- Materials
- Sewer Pipe Installation
- Special Provisions
- Manhole Rehabilitation

CITY OF ELIZABETH CITY, NORTH CAROLINA
RAY STREET AT BROOKS AVENUE WATER AND SEWER REPLACEMENT

ADVERTISEMENT FOR BIDS

Sealed Bids for the construction of the Ray Street at Brooks Avenue Water and Sewer Replacement will be received at the City of Elizabeth City, **City Hall of the City of Elizabeth City located on 306 East Colonial Avenue, Elizabeth City, NC**, until **2:00 pm** local time on **March 27, 2025**, at which time the Bids received will be **publicly** opened and read. The bidder shall show such evidence by clearly displaying his or her current license number on the outside of the sealed envelope in which the proposal is delivered.

This project is being funded in whole or in part by the Community Development Block Grant Program (CDBG), as administrated by the North Carolina Department of Environmental Quality/Division of Water Infrastructure. All federal CDBG requirements will apply to the contract: Bidders on this work will be required to comply with Section 109 and E.O. 11246 which prohibits discrimination in employment regarding race, creed, color, sex, or national origin. Bidders must comply with Title VI of the Civil Rights Act of 1964, Davis Bacon Act, Anti-Kickback Act, and Contract Work Hours and Safety Standards Act.

The City of Elizabeth City is committed to and supportive of efforts to effectively maintain and/or increase the use of Small and Minority/Women-Owned Business, Veteran-Owned, and Historically Underutilized Businesses (HUB) contract participation for construction projects, services (including professional and consulting services) and commodities purchases, and increase contract participation to offer employment, training and contracting opportunities in accordance with Section 3 of the Housing and Urban Development Act of 1968.

No contract may be awarded to any contractor that is debarred, suspended or otherwise ineligible to participate in Federally assisted contracts or programs. Any contract awarded to a prime contractor or subcontractor that is found to be ineligible for award must be terminated immediately. Prior to contract award prime contractors are to be actively registered, with no exclusions, with SAM.gov and not on NC Debarred Vendors list, to determine eligibility/debarment status.

This project involves the replacement of the existing water supply and sanitary collection systems along Ray Street from Brooks Avenue to approximately 525 feet east of its intersection with Madison Avenue. Work includes: the abandonment and/or removal of the existing water supply system as indicated on the drawings; the installation of approximately 1,658 linear feet of new 6" diameter water main; installation of (33) ¾" diameter water service lines (including meter setters and meter boxes); the installation of (3) fire hydrant assemblies; the installation of (3) 6" gate valves; the installation of (1) 8"x6" tapping sleeve and valve; the abandonment and/or removal of the existing sanitary sewer collection system as indicated on the plans; the installation of approximately 1,660 linear feet of new 8" diameter sanitary sewer main; the installation of approximately 485 linear feet of sanitary sewer service laterals; the installation of 31 sanitary service cleanouts; and the installation of 6 new sanitary sewer manholes.

Work includes all pavement patching, pavement milling and overlay, select material, traffic control, erosion & sediment control, concrete work, grading, seeding, mulching, landscaping, bypass pumping, and any other incidental work required to complete the work and to return the area to previously existing conditions. The foregoing description shall not be construed as a complete description of all work required.

Bids will be received for a single prime Contract. Bids shall be on a unit price basis as indicated in the Bid Form.

The Issuing Office for the Bidding Documents is: Johnson, Mirmiran and Thompson, Inc., located at 272 Bendix Road, Suite 260, Virginia Beach, Virginia, 23452, telephone 757.552.1062, Attention: Mr. Aaron Mickiewicz, PE, email address; amickiewicz@jmt.com. Prospective Bidders may examine the Bidding Documents at the Issuing Office on Mondays through Fridays between the hours of 8:00 am to 5:00 pm and may obtain copies of the Bidding Documents from the Issuing Office as described below.

Bidding Contract Documents may be examined at the following institutions during normal business hours:

- Carolina’s AGC digital plan room at www.cagc.org on **IBuild**
- CDC News Office in Cary, NC (www.cdcnews.com)
- McGraw Hill Construction Dodge digital plan room at <http://dodge.construction.com/plans/>
- Hispanic Contractors Association of the Carolinas plan room in Raleigh, NC (www.hcacarolinas.org/)

Bidding Documents may be obtained from the Issuing Office during the hours indicated above. Bidding Documents are available by way of electronic file transfer at no cost; or on USB drive (as portable document format, .pdf files) for a non-refundable charge of **\$50.00**, including shipping via overnight express service. Alternatively, printed Bidding Documents may be obtained from the Issuing Office either via in-person pick-up or via mail, upon Issuing Office’s receipt of payment for the Bidding Documents. The non-refundable cost of printed Bidding Documents is **\$200.00** per set, payable to **“Johnson, Mirmiran and Thompson, Inc.”**, plus a non-refundable shipping charge. Upon Issuing Office’s receipt of payment, printed Bidding Documents will be sent via the prospective Bidder’s delivery method of choice; the shipping charge will depend on the shipping method chosen. The date that the Bidding Documents are transmitted by the Issuing Office will be considered the prospective Bidder’s date of receipt of the Bidding Documents. Partial sets of Bidding Documents will not be available from the Issuing Office. Neither the Owner nor the Engineer will be responsible for full or partial sets of Bidding Documents, including Addenda if any, obtained from sources other than the Issuing Office.

A Pre-Bid Conference will be held at **11:00 am** local time on **March 6, 2025** at the **City Hall of the City of Elizabeth City located 306 East Colonial Avenue, Elizabeth City, NC**. Attendance at the Pre-Bid Conference is **mandatory**.

Bid security shall be furnished in accordance with the Instructions to Bidders.

Owner: City of Elizabeth City
By: Edward Kirk Rivers
Title: Mayor
Date: July 26, 2024

This municipality is an **Equal Opportunity Employer**.

Date: _____

Authorized Representative: _____



+ + END OF ADVERTISEMENT FOR BIDS + +

INSTRUCTIONS TO BIDDERS

TABLE OF CONTENTS

	Page
Article 1 – Defined Terms	1
Article 2 – Copies of Bidding Documents	1
Article 3 – Qualifications of Bidders	1
Article 4 – Site and Other Areas; Existing Site Conditions; Examination of Site; Owner’s Safety Program; Other Work at the Site	1
Article 5 – Bidder’s Representations	3
Article 6 – Pre-Bid Conference	4
Article 7 – Interpretations and Addenda	5
Article 8 – Bid Security	5
Article 9 – Contract Times	5
Article 10 – Liquidated Damages	5
Article 11 – Substitute and “Or-Equal” Items	5
Article 12 – Subcontractors, Suppliers, and Others	6
Article 13 – Preparation of Bid	6
Article 14 – Basis of Bid	7
Article 15 – Submittal of Bid	8
Article 16 – Modification and Withdrawal of Bid	8
Article 17 – Opening of Bids	8
Article 18 – Bids to Remain Subject to Acceptance	8
Article 19 – Evaluation of Bids and Award of Contract	9
Article 20 – Bonds and Insurance	9
Article 21 – Signing of Agreement	9

ARTICLE 1 – DEFINED TERMS

- 1.01 *Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:*
- A. *Issuing Office* – The office from which the Bidding Documents are to be issued.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 *Complete sets of the Bidding Documents may be obtained from the Issuing Office in the number and format stated in the advertisement or invitation to bid.*
- 2.02 *Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.*
- 2.03 *Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.*

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 *To demonstrate Bidder’s qualifications to perform the Work, Bidder shall submit (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:*
- A. Evidence of Bidder’s authority to do business in the state where the Project is located.
- B. Bidder’s state or other contractor license number, if applicable.
- C. Subcontractor and Supplier qualification information; coordinate with provisions of Article 12 of these Instructions, “Subcontractors, Suppliers, and Others.”

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER’S SAFETY PROGRAM; OTHER WORK AT THE SITE

- 4.01 Site and Other Areas
- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.
- 4.02 Existing Site Conditions
- A. Subsurface and Physical Conditions; Hazardous Environmental Conditions
1. The Supplementary Conditions identify:
- a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.

- b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
 - c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
 3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.
 4. Geotechnical Baseline Report: The Bidding Documents contain a Geotechnical Baseline Report (GBR). The GBR describes certain select subsurface conditions that are anticipated to be encountered by Contractor during construction in specified locations ("Baseline Conditions"). The GBR is a Contract Document.

The Baseline Conditions in the GBR are intended to reduce uncertainty and the degree of contingency in submitted Bids. However, Bidders cannot rely solely on the Baseline Conditions. Bids should be based on a comprehensive approach that includes an independent review and analysis of the GBR, all other Contract Documents, Technical Data, other available information, and observable surface conditions. Not all potential subsurface conditions are baselined.

Nothing in the GBR is intended to relieve Bidders of the responsibility to make their own determinations regarding construction costs, bidding strategies, and Bid prices, nor of the responsibility to select and be responsible for the means, methods, techniques, sequences, and procedures of construction, and for safety precautions and programs incident thereto.

- B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or adjacent to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.
- C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated

in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

4.03 Site Visit and Testing by Bidders

- A. Bidder shall conduct the required Site visit during normal working hours and shall not disturb any ongoing operations at the Site.
- B. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- C. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.
- D. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- E. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.04 Owner's Safety Program

- A. Site visits and work at the Site may be governed by an Owner safety program. As the General Conditions indicate, if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.05 Other Work at the Site

- A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 5 – BIDDER'S REPRESENTATIONS

5.01 *It is the responsibility of each Bidder before submitting a Bid to:*

- A. Examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;
- B. Visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. Become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;

- D. Carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings here are no subsurface or geotechnical reports available for this project.
- E. Consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;
- F. Agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
- G. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
- I. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
- J. Agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 6 – PRE-BID CONFERENCE

- 6.01 A **Mandatory** Pre-Bid conference will be held at the time and location stated in the invitation or advertisement to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are required to attend and participate in the mandatory conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all parties recorded as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of five (5%) percent of Bidder’s maximum Bid price (determined by adding the base bid and all alternates) and in the form of a certified check, bank money order, or a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner’s exclusive remedy if Bidder defaults.
- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which the Work is to be substantially completed, and completed and ready for final payment, are set forth in the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND “OR-EQUAL” ITEMS

- 11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or “or-equal” items. In cases in which the Contract allows

the Contractor to request that Engineer authorize the use of a substitute or “or-equal” item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.

- 11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder’s sole risk.
- 11.03 If an award is made, Contractor shall be allowed to submit proposed substitutes and “or-equals” in accordance with the General Conditions.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 12.01 The apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of the Subcontractors or Suppliers proposed for the project.
- If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- 12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.06 of the General Conditions.
- 12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.
- 12.04 The Contractor shall not award work to Subcontractor(s) in excess of the limits stated in SC 7.06.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
- B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words “No Bid” or “Not Applicable.”

- 13.02 A Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown.
- 13.03 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The partnership's address for receiving notices shall be shown.
- 13.04 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the firm's address for receiving notices shall be shown.
- 13.05 A Bid by an individual shall show the Bidder's name and address for receiving notices.
- 13.06 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture's address for receiving notices shall be shown.
- 13.07 All names shall be printed in ink below the signatures.
- 13.08 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.09 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.10 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID

14.01 Unit Price

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity" (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
- C. 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.

14.02 Allowances

- A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 15 – SUBMITTAL OF BID

- 15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 7 of the Bid Form.
- 15.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to the Mayor and City Council; P.O. Box 347, Elizabeth City, NC 27907-0347.
- 15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 16.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bids will be opened at the time and place indicated in the Advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.
- 19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.
- 19.03 Evaluation of Bids
- A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. To determine the Bid prices for purposes of comparison, Owner shall announce to all bidders a “Base Bid plus alternates” budget after receiving all Bids, but prior to opening them. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.
- 19.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

ARTICLE 20 – BONDS AND INSURANCE

- 20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner’s requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 – SIGNING OF AGREEMENT

- 21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within ten days

thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

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BID FORM

RAY STREET AT BROOKS AVENUE WATER AND SEWER REPLACEMENT

SINGLE PRIME CONTRACT

FOR THE
CITY OF ELIZABETH CITY, NORTH CAROLINA

TABLE OF CONTENTS

	Page
Article 1 – Bid Recipient	1
Article 2 – Bidder’s Acknowledgements	1
Article 3 – Bidder’s Representations.....	1
Article 4 – Bidder’s Certification	2
Article 5 – Basis of Bid	3
Article 6 – Time of Completion	9
Article 7 – Attachments to this Bid	11
Article 8 – Bid Submittal	12

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

The Mayor and City Council
City of Elizabeth City
P.O. Box 347, 306 East Colonial Avenue
Elizabeth City, NC 227907-0347

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2)

the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

- E. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- G. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- I. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following Unit Price Items.

For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price times the estimated quantity of that item.

If no contract line item exists for a portion of the work, it shall be considered incidental and separate payment will not be made. Contractor shall include incidental costs in a related item.

UNIT PRICE ITEMS						
ITEM NO.	ITEM DESCRIPTION	UNIT	CDBG-I No. 19-I-3648 QUANTITY	CDBG-I No. 21-I-4004 QUANTITY	UNIT PRICE (in Figures)	TOTAL ITEM PRICE (in Figures)
MISCELLANEOUS						
1	Mobilization	LS	-	1		
2	Erosion and Sediment Control	LS	-	1		
3	Pavement Demolition	SY-IN	-	6,680		
4	Aggregate Base Course	TON	-	551		
5	Asphalt Base Course	SY-IN	-	3,840		
6	Asphalt Surface Course	SY-IN	-	6,530		
7	Temporary Traffic Control	LS	-	1		
8	Milling Asphalt Pavement	SY	-	3,265		
SUBTOTAL OF MISCELLANEOUS						
WATER DISTRIBUTION SYSTEM						
9	Abandon Existing Water Main	CY	-	10		
10	Abandon/Remove Existing Water Service Lines	EA	-	30		
11	Connection to Existing 6-inch Water Main	EA	1	-		
12	Temporary Line Stop or Insertion Valve (As Approved by the Owner)	EA	1	-		
13	6-inch Dia. C-900 PVC DR 18 Water Main	LF	1,658	-		
14	Fire Hydrant Assembly	EA	3	-		
15	6-inch Gate Valve	EA	3	-		
16	8"x6" Tapping Sleeve & Valve	EA	1	-		
17	3/4-inch Type K Copper Service	EA	33	-		
SUBTOTAL WATER DISTRIBUTION SYSTEM						

UNIT PRICE ITEMS						
ITEM NO.	ITEM DESCRIPTION	UNIT	CDBG-I No. 19-I-3648 QUANTITY	CDBG-I No. 21-I-4004 QUANTITY	UNIT PRICE (in Figures)	TOTAL ITEM PRICE (in Figures)
SANITARY SEWER SYSTEM						
18	Abandon/Remove Sanitary Lateral	EA	-	30		
19	Manhole Removal	EA	-	4		
20	Bypass Pumping	LS	-	1		
21	8-inch Dia. Sanitary Sewer Pipe (Depth: 4-5.99ft)	LF	-	540		
22	8-inch Dia. Sanitary Sewer Pipe (Depth: 6-7.99ft)	LF	-	600		
23	8-inch Dia. Sanitary Sewer Pipe (Depth: 8-9.99ft)	LF	-	519		
24	Sewer Lateral	LF	-	485		
25	Precast Concrete Manhole (Depth: 3 – 5.99 ft)	EA	-	2		
26	Precast Concrete Manhole (Depth: 6 – 7.99 ft)	EA	-	2		
27	Precast Concrete Manhole (Depth: 8 – 9.99 ft)	EA	-	2		
28	Clean-out Assembly	EA	-	31		
29	Connection to and Rehabilitation of Existing Manhole	EA	-	1		
SUBTOTAL SANITARY SEWER SYSTEM						
TOTAL OF ALL PRICES						

DEFINITIONS OF UNIT PRICE ITEMS

1. Contract Line Item No. 1: Mobilization
 - a. This item consists of furnishing all material, equipment, and labor to mobilize on site including the bond amount.
 - b. Measurement for payment will be lump sum (LS).
 - c. Payment will be made at the contract lump sum.

2. Contract Line Item No. 2: Erosion and Sediment Control
 - a. This item consists of furnishing all material, equipment, and labor to install erosion and sediment control devices and maintain throughout construction and provide any clearing and tree removal approved by the owner for the construction of the new utility system.
 - b. Measurement for payment will be lump sum (LS).
 - c. Payment will be made at the contract lump sum.

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3. Unit Price Item No. 3: Pavement Demolition
 - a. This item consists of furnishing all material, equipment, and labor to demolish and removal of existing pavement. Pavement shall be demolished/milled as shown on the Contract Drawings, or as directed by the City's inspector including demolition/milling operation, saw cutting, removal and proper disposal of existing pavement and incidentals required to complete the work in its entirety. All demolished/milled materials becomes the property of the contractor.
 - b. Measurement of payment will be square yard-inch (SY-IN).
 - c. Payment will be made at the contract square yard-inch.

 4. Unit Price Item No. 4: Aggregate Base Course
 - a. This item consists of furnishing all material, equipment, and labor to install in place and compacted as specified 6-inches of aggregate base course material NCDOT approved as indicated on the Contract Drawings including sub-grade preparation, grading, excavation, and compaction required to complete the work in its entirety.
 - b. Measurement of payment will be by the Ton (TON).
 - c. Payment will be made at the contract Ton.

 5. Unit Price Item No. 5: Asphalt Base Course
 - a. This item consists of furnishing all material, equipment, and labor to install in place as specified and shown on the contract documents 2-inches of Type I 19B Bituminous Intermediate course including compacting and tack coat.
 - b. Measurement of payment will be square yard-inch (SY-IN).
 - c. Payment will be made at the contract square yard-inch.

 6. Unit Price Item No. 6: Asphalt Surface Course
 - a. This item consists of furnishing all material, equipment, and labor to install in place as specified and shown on the contract documents 2-inches of Type 9.5A Surface course including compacting and tack coat.
 - b. Measurement of payment will be square yard-inch (SY-IN).
 - c. Payment will be made at the contract square yard-inch.

 7. Unit Price Item No. 7: Temporary Traffic Control
 - a. This item consists of furnishing all material, equipment, and labor to provide temporary traffic control during the duration of the project including, traffic control plan approval and or any permitting required by the Owner.
 - b. Measurement for payment will be lump sum (LS).
 - c. Payment will be made at the contract lump sum.

 8. Unit Price Item No. 8: Milling Asphalt Pavement
 - a. This item consists of furnishing all material, equipment, and labor to perform milling of pavement and temporary pavement patching after all utility work has been completed. 2-inches of milling shall be performed for placement of the permanent surface course shown on the contract drawings.
 - b. Measurement for payment will be square yard-inch (SY-IN).
 - c. Payment will be made at the contract square yard-inch.

 9. Unit Price Item No. 9: Abandon Existing Water Main
 - a. This item consists of furnishing all material, equipment, and labor to abandon existing water mains that are greater than 2-inches in diameter with a low density controlled low strength flowable fill for pipe abandonment including plugging/capping, joint restraints and or thrust blocks, dewatering, sheeting or shoring, excavation, backfilling, temporary or

-
- permanent pavement replacement, driveway and sidewalk replacement in-kind, and area restoration not indicated on the contract drawings.
- b. Measurement for payment will be cubic yard (CY).
 - c. Payment will be made at the contract cubic yard.
10. Unit Price Item No. 10: Abandon/Remove Existing Water Service
- a. This item consists of furnishing all material, equipment, and labor to abandon and/or remove existing water services including removal of existing water meter setter, box and lids, removal or capping of any existing service line, dewatering, excavation, sheeting or shoring, protection of existing utilities and structures, backfilling and compaction, unsuitable soil export and disposal in a lawful manner, driveway and sidewalk replacement in-kind, and any surface restorations.
 - b. Measurement for payment will be each item (EA).
 - c. Payment will be made at the contract each item price.
11. Unit Price Item No. 11: Connection to Existing 6-inch Water Main
- a. This item consists of furnishing all material, equipment, and labor to connect the new 6-inch water main to the existing 6-inch water main as shown on the contract drawings including fittings, restrained couplings, spool pieces, joint restraints, existing main joint restraints, thrust blocks, excavation, dewatering, sheeting and shoring, bedding, backfilling, compaction, protection of existing utilities and structures, driveway and sidewalk replacement in-kind, surface restorations, unsuitable soil export and disposal in a lawful manner.
 - b. Measurement for payment will be each item (EA).
 - c. Payment will be made at the contract each item price.
12. Unit Price Item No. 12: Temporary Line Stop or Insertion Valve
- a. This item consists of furnishing all material, equipment, and labor to install a temporary line stop or insertion valve on the existing 6-inch water main for abandonment and includes excavation, sheeting or shoring, dewatering, unsuitable soil export and disposal in a lawful manner, bedding, backfilling, compaction, protection of existing utilities and structures, driveway and sidewalk replacement in-kind, surface restorations, joint restraints, thrust blocks, and temporary or permanent pavement patching. Owner Approval Required prior to purchase.
 - b. Measurement for payment will be each item (EA).
 - c. Payment will be made at the contract each item price.
13. Unit Price Item No. 13: 6-inch Dia. C-900 PVC Water Main
- a. This item consists of furnishing all material, equipment, and labor to install new 6-inch diameter PVC C-900 DR 18 as shown on the contract drawings and specifications including ductile iron fittings, joint restraints on new mains and split ring joint restraints on existing mains, thrust blocks, pressure testing, disinfection, flushing, excavation, sheeting and shoring, dewatering, unsuitable soil export and disposal in a lawful manner, bedding, select backfill, compaction and density testing, protection of existing utilities and structures, driveway and sidewalk replacement in-kind, surface restorations, and #10 gauge insulated copper tracer wire and marking tape (copper tracer wire will be checked for continuity at, or prior to final inspection). Service lines shall be transferred to the new system immediately upon activation of the new system, or when deemed appropriate by the City's inspector.
 - b. Measurement for payment will be linear feet (LF).
 - c. Payment will be made at the contract linear foot price.

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14. Unit Price Item No. 14: Fire Hydrant Assembly
 - a. This item consists of furnishing all materials, equipment, and labor to install new fire hydrant assemblies as shown on the contract drawings including, gate valve, box and cover, ductile iron pipe and fittings per specifications, including joint restraints, thrust blocks, pressure testing, disinfection, flushing, excavation, sheeting and shoring, dewatering, unsuitable soil export and disposal in a lawful manner, bedding, select backfill, compaction and density testing, protection of existing utilities and structures, driveway and sidewalk replacement in-kind, and surface restorations.
 - b. Measurement of payment will be each item (EA).
 - c. Payment will be made at the contract each item.

 15. Unit Price Item No. 15: 6-inch Gate Valve
 - a. This item consists of furnishing all materials, equipment, and labor to install new 6-inch gate valves shown on the contract drawings and per specifications complete and in place, including box and cover, valve extensions, dewatering, excavation, sheeting and shoring, protection of existing utilities and structures, joint restraints, bedding, select backfilling, compaction and density testing, flushing, testing, disinfection, unsuitable soil export and disposal in a lawful manner, driveway and sidewalk replacement in-kind, and surface restorations.

Note: 6-inch valves used in the fire hydrant assembly are considered to be part of the fire hydrant assembly and will be paid for under that item.
 - b. Measurement of payment will be each item (EA).
 - c. Payment will be made at the contract each item.

 16. Unit Price No. 16: 8"x6" Tapping Sleeve and Valve
 - a. This item consists of furnishing all materials, equipment, and labor to install new stainless steel tapping sleeve with tapping valve as shown on the contract drawings and contract specifications including wet tapping, sheeting and shoring, dewatering, thrust blocks, restrained joints, excavation, pavement removal, saw cutting, excavation, unsuitable soil export and disposal in a legal manner, bedding, select material backfilling, compaction and density testing, flushing, pressure testing, disinfection, protection of existing utilities and structures, driveway and sidewalk replacement in-kind, surface restorations, and temporary or permanent pavement patching.
 - b. Measurement of payment will be each item (EA).
 - c. Payment will be made at the contract each item.

 17. Unit Price No. 17: 3/4-inch Type K Copper Service
 - a. This item consists of furnishing all materials, equipment, and labor to install new water 3/4-inch type K copper service lines as shown on the contract drawings and per the contract specifications including, excavation, sheeting and shoring, pavement removal, saw cutting, unsuitable soil export and disposal in a legal manner, dewatering, select material backfilling and compaction, protection of existing utilities and structures, boring, jacking or similar approved method, flushing, pressure testing, disinfection, surface restoration, temporary and permanent patching, and driveway and sidewalk replacement in-kind.
 - b. Measurement of payment will be each item (EA).
 - c. Payment will be made at the contract each item,.

 18. Unit Price No. 18: Abandon/Remove Sanitary Lateral
 - a. This item consists of furnishing all materials, equipment, and labor to abandon or remove existing sanitary sewer laterals as shown on the contract drawings and per the contract specifications including capping/plugging, excavation, dewatering, sheeting and shoring, pavement removal, saw cutting, unsuitable soil export and disposal in a legal manner, select backfilling and compaction, protection of existing utilities and structures, surface

-
- restoration, temporary and permanent patching, driveway and sidewalk replacement in-kind, and surface restorations.
 - b. Measurement of payment will be each item (EA).
 - c. Payment will be made at the contract each item.
19. Unit Price No. 19: Manhole Removal
- a. This item consists of furnishing all materials, equipment, and labor to remove sanitary sewer manholes as shown on the contract drawings including disposal in a legal manner, excavation, dewatering, sheeting and shoring, unsuitable soil export and disposal in a legal manner, select backfilling and compaction, protection of existing utilities and structures, temporary and permanent patching, saw cutting, driveway and sidewalk replacement in-kind, and surface restorations.
 - b. Measurement of payment will be each item (EA).
 - c. Payment will be made at the contract each item.
20. Unit Price No. 20: Bypass Pumping
- a. This item consists of furnishing all materials, equipment, and labor to provide bypass pumping, pump and haul, or any other approved method to maintain existing sewage flows during during construction. The contractor shall submit a bypass plan to the owner prior to construction and or placement of the sewage bypass system.
 - b. Measurement of payment will be lump sum (LS).
 - c. Payment will be made at the contract schedule of values of the lump sump item.
21. Unit Price No. 21: 8-inch Dia. Sanitary Sewer Pipe (Depth 4 – 5.99 ft)
- a. This item consists of furnishing all materials, equipment, and labor to install 8-inch diameter PVC SDR-26 sanitary sewer pipe at a depth of 4 – 5.99 feet as shown on the contract drawings and per the contract specifications including dewatering, excavation, sheeting and shoring, protection of existing utilities and structures, unsuitable soil export and disposal in a legal manner, bedding, select backfilling and compaction, testing as specified, temporary pavement patching, saw cutting, driveway and sidewalk replacement in-kind, and surface restorations.
 - b. Measurement of payment will be linear foot of pipe (LF)
 - c. Payment will be made at the contract linear foot.
22. Unit Price No. 22: 8-inch Dia. Sanitary Sewer Pipe (Depth 6 – 7.99 ft)
- a. This item consists of furnishing all materials, equipment, and labor to install 8-inch diameter PVC SDR-26 sanitary sewer pipe at a depth of 6 – 7.99 feet as shown on the contract drawings and per the contract specifications including dewatering, excavation, sheeting and shoring, protection of existing utilities and structures, unsuitable soil export and disposal in a legal manner, bedding, select backfilling and compaction, testing as specified, temporary pavement patching, saw cutting, driveway and sidewalk replacement in-kind, and surface restorations.
 - b. Measurement of payment will be linear foot of pipe (LF)
 - c. Payment will be made at the contract linear foot.
23. Unit Price No. 23: 8-inch Dia. Sanitary Sewer Pipe (Depth 8 – 9.99 ft)
- a. This item consists of furnishing all materials, equipment, and labor to install 8-inch diameter PVC SDR-26 sanitary sewer pipe at a depth of 8 – 9.99 feet as shown on the contract drawings and per the contract specifications including dewatering, excavation, sheeting and shoring, protection of existing utilities and structures, unsuitable soil export and disposal in a legal manner, bedding, select backfilling and compaction, testing as specified, temporary pavement patching, saw cutting, driveway and sidewalk replacement in-kind, and surface restorations.

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- b. Measurement of payment will be linear foot of pipe (LF)
 - c. Payment will be made at the contract linear foot.
24. Unit Price No. 24: Sewer Lateral
- a. This item consists of furnishing all materials, equipment, and labor to install 4-inch diameter PVC SDR-26 sewer laterals as shown on the contract drawings and per the contract specifications including fittings, dewatering, excavation, sheeting and shoring, protection of existing utilities and structures, unsuitable soil export and disposal in a legal manner, bedding, select backfilling and compaction, testing as specified, temporary pavement patching, saw cutting, driveway and sidewalk replacement in-kind, and surface restorations.
 - b. Measurement of payment will be linear foot of pipe (LF).
 - c. Payment will be made at the contract linear foot.
25. Unit Price No. 25: Precast Concrete Manhole (Depth 3 – 5.99 ft)
- a. This item consists of furnishing all materials, equipment, and labor to install 4' inside diameter precast concrete manholes as shown on the contract documents and per the contract specifications including dewatering, excavation, sheeting and shoring, protection of existing utilities and structures, unsuitable soil export and disposal in a legal manner, bedding, select backfilling and compaction, in field vacuum testing as specified, temporary pavement patching, saw cutting, driveway and sidewalk replacement in-kind, surface restorations, frame and cover, watertight boots and section joints, and all appurtenances. Manholes shall have a monolithic base with 8-inch extension.
NOTE: Frame and covers shall be watertight.
 - b. Measurement of payment will be each item (EA).
 - c. Payment will be made at the contract each item.
26. Unit Price No. 26: Precast Concrete Manhole (Depth 6 – 7.99 ft)
- a. This item consists of furnishing all materials, equipment, and labor to install 4' inside diameter precast concrete manholes as shown on the contract documents and per the contract specifications including dewatering, excavation, sheeting and shoring, protection of existing utilities and structures, unsuitable soil export and disposal in a legal manner, bedding, select backfilling and compaction, in field vacuum testing as specified, temporary pavement patching, saw cutting, driveway and sidewalk replacement in-kind, surface restorations, frame and cover, watertight boots and section joints, and all appurtenances. Manholes shall have a monolithic base with 8-inch extension.
NOTE: Frame and covers shall be watertight.
 - b. Measurement of payment will be each item (EA).
 - c. Payment will be made at the contract each item.
27. Unit Price No. 27: Precast Concrete Manhole (Depth 8 – 9.99 ft)
- a. This item consists of furnishing all materials, equipment, and labor to install 4' inside diameter precast concrete manholes as shown on the contract documents and per the contract specifications including dewatering, excavation, sheeting and shoring, protection of existing utilities and structures, unsuitable soil export and disposal in a legal manner, bedding, select backfilling and compaction, in field vacuum testing as specified, temporary pavement patching, saw cutting, driveway and sidewalk replacement in-kind, surface restorations, frame and cover, watertight boots and section joints, and all appurtenances. Manholes shall have a monolithic base with 8-inch extension.
NOTE: Frame and covers shall be watertight.
 - b. Measurement of payment will be each item (EA).
 - c. Payment will be made at the contract each item.

28. Unit Price No. 28: Clean-out Assembly
- a. This item consists of furnishing all materials, equipment, and labor to install sanitary sewer clean-outs as shown on the contract drawings per the contract specifications including sch 40 to SDR 26 transition fittings, watertight plug, concrete, saw cutting, driveway and sidewalk replacement in-kind, and surface restorations.
 - b. Measurement of payment will be each item (EA).
 - c. Payment will be made at the contract each item.
29. Unit Price No. 29: Connection to and Rehabilitation of Existing Manhole
- a. This item consists of furnishing all materials, equipment, and labor to connect to the existing sanitary sewer manhole via core drill and rubber boot, as shown on the contract documents and per the contract specifications including dewatering, excavation, sheeting and shoring, protection of existing utilities and structures, unsuitable soil export and disposal in a legal manner, bedding, select backfilling and compaction, temporary pavement patching, saw cutting, driveway and sidewalk replacement in-kind, surface restorations, watertight boots, and all appurtenances. The existing manhole shall be rehabilitated per the contract specifications for Rehabilitated Manholes.
 - b. Measurement of payment will be each item (EA).
 - c. Payment will be made at the contract each item.

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
 - B. List of Proposed Subcontractors;
 - C. List of Proposed Suppliers;
 - D. List of Project References;
 - E. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
 - F. Contractor's License No.:
 - G. City of Elizabeth City HUB Certified / Minority Business Compliance Supplement Forms (See Section C-810).

ARTICLE 8 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

By:

[Signature] _____

[Printed name] _____

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

Bidder's License No.: _____

(where applicable)

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (Name and Address):

SURETY (Name, and Address of Principal Place of Business):

OWNER (Name and Address): City of Elizabeth City
306 East Colonial Avenue
Elizabeth City, NC 27909

BID

Bid Due Date

Description:

Ray Street at Brooks Avenue Water and Sewer Replacement
City of Elizabeth City, North Carolina

BOND

Bond Number:

Date:

Penal sum

Five Percent of Amount Bid

\$

5%

(Words)

(Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

(Seal)

(Seal)

Bidder's Name and Corporate Seal

Surety's Name and Corporate Seal

By:

By:

Signature

Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest:

Attest

Signature

Signature

Title

Title

Note: Addresses are to be used for giving any required notice.

Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

POWER OF ATTORNEY

(Attach Power of Attorney Here)

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NOTICE OF AWARD

Date of Issuance:

Owner: City of Elizabeth City

Owner's Contract No.:

Engineer: Johnson, Mirmiran and Thompson

Engineer's Project No.: 23-02443-002

Project: Ray Street at Brooks Avenue
Water and Sewer Replacement

Contract Name: Ray Street at Brooks Avenue
Water and Sewer Replacement

Bidder:

Bidder's Address:

TO BIDDER:

You are notified that Owner has accepted your Bid dated [_____]
for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

_____ .
[describe Work, alternates, or sections of Work awarded]

The Contract Price of the awarded Contract is: \$ _____ *[note if subject to unit prices, or cost-plus]*

1. Three (3) unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically. *[revise if multiple copies accompany the Notice of Award]*
2. Three (3) sets of the Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of this Notice of Award:

1. Deliver to Owner three (3) counterparts of the Agreement, fully executed by Bidder.
2. Deliver with the executed Agreement(s) the Contract security [e.g., performance and payment bonds] and insurance documentation as specified in the Instructions to Bidders and General Conditions, Articles 2 and 6.

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten (10) days after you comply with the above conditions, Owner will return to you one (1) fully executed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner:

Authorized Signature

By:

Title:

Copy: Engineer/JMT

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**AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)**

THIS AGREEMENT is by and between City of Elizabeth City, North Carolina (“Owner”) and _____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: _____

ARTICLE 3 – ENGINEER

3.01 The part of the Project that pertains to the Work has been designed by Johnson, Mirmiran and Thompson, Inc.

3.02 The Owner has retained Johnson, Mirmiran and Thompson, Inc. (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Days*

A. The Work will be substantially completed within 300 days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 365 days after the date when the Contract Times commence to run.

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of

requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner **\$500.00** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner **\$500.00** for each day that expires after such time until the Work is completed and ready for final payment.
3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

- A. For all Work other than Unit Price Work, a lump sum of: \$.

All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 Progress Payments; Retainage

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the last day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
 - a. 95 percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long

as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and

- b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 100 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

7.01 All amounts not paid when due shall bear interest at the rate of 1.0 percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:

- A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
- B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; and the Contract Documents; with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.
- E. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- F. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

- G. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- H. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- I. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 Contents

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to 7, inclusive).
 - 2. Performance bond (pages 1 to 4, inclusive).
 - 3. Payment bond (pages 1 to 4, inclusive).
 - 4. General Conditions (pages 1 to 67, inclusive).
 - 5. Supplementary Conditions (pages 1 to 6, inclusive).
 - 6. HUB/Minority Business Participation Forms
 - 7. Specifications as listed in the table of contents of the Project Manual.
 - 8. Drawings (not attached but incorporated by reference) consisting of 9 sheets with each sheet bearing the following general title: Ray Street at Brooks Avenue Water and Sewer Replacement Project.
 - 9. Addenda.
 - 10. Exhibits to this Agreement:
 - a. Contractor's Bid (pages ___ to ___, inclusive).
 - 11. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.06 *Other Provisions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, published by the Engineers Joint Contract Documents Committee®, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or “track changes” (redline/strikeout), or in the Supplementary Conditions.

ARTICLE 9- Minority Business Participation Requirements

1. *Provide on the bid - Under GS 143-128.2{c} the undersigned bidder shall identify on its bid the minority businesses that it will use on the project and the total dollar value of the bid that will be performed by the minority businesses and list the good faith efforts (Affidavit A) made to solicit participation*
2. *Note: A contractor that performs all of the work with its own workforce may submit an Affidavit (B) to that effect in lieu of the affidavit (A) required above.*
3. *After the bid opening - The Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low bidder, the bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:*

An Affidavit (q that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the 10% goal established. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort;

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

OWNER:

CONTRACTOR:

By: _____

By: _____

Title: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

License No.: _____
(where applicable)

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

NOTE TO USER: Use in those states or other jurisdictions where applicable or required.

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NOTICE TO PROCEED

Date of Issuance:

Owner: City of Elizabeth City

Owner's Contract No.:

Engineer: Johnson, Mirmiran and Thompson
Project: Ray Street at Brooks Avenue Water
and Sewer Replacement

Engineer's Project No.: 23-02443-002
Contract Name: Ray Street at Brooks Avenue
Water and Sewer Replacement
Effective Date of Contract:

TO CONTRACTOR:

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on [_____, 20__]. *[see Paragraph 4.01 of the General Conditions]*

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, the date of Substantial Completion is _____, and the date of readiness for final payment is _____] **or** [the number of days to achieve Substantial Completion is _____, and the number of days to achieve readiness for final payment is _____].

Before starting any Work at the Site, Contractor must comply with the following:
[Note any access limitations, security procedures, or other restrictions]

Owner:

Authorized Signature

By:

Title:

Date Issued:

Copy: Engineer - JMT

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PERFORMANCE BOND

CONTRACTOR (*name and address*):
business):

SURETY (*name and address of principal place of*

OWNER (*name and address*):

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description (*name and location*):

BOND

Bond Number:

Date (*not earlier than the Effective Date of the Agreement of the Construction Contract*):

Amount:

Modifications to this Bond Form: None See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

_____ (*seal*)

Contractor's Name and Corporate Seal

By: _____

Signature

Print Name

Title

Attest: _____

Signature

Title

SURETY

_____ (*seal*)

Surety's Name and Corporate Seal

By: _____

Signature (*attach power of attorney*)

Print Name

Title

Attest: _____

Signature

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:
 - 3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
 - 3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
 - 3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
 - 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
 - 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
 - 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
 - 5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
 - 5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.
7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
 - 7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
 - 7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
 - 7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments

have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

POWER OF ATTORNEY

(Attach Power of Attorney Here)

PAYMENT BOND

CONTRACTOR (*name and address*): _____ SURETY (*name and address of principal place of business*): _____

OWNER (*name and address*): _____

CONSTRUCTION CONTRACT

Effective Date of the Agreement: _____

Amount: _____

Description (*name and location*): _____

BOND

Bond Number: _____

Date (*not earlier than the Effective Date of the Agreement of the Construction Contract*): _____

Amount: _____

Modifications to this Bond Form: None See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Contractor's Name and Corporate Seal (seal)

By: _____
Signature

Print Name

Title

Attest: _____
Signature

Title

SURETY

Surety's Name and Corporate Seal (seal)

By: _____
Signature (*attach power of attorney*)

Print Name

Title

Attest: _____
Signature

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
 - 5.1 Claimants who do not have a direct contract with the Contractor,
 - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2 Pay or arrange for payment of any undisputed amounts.
 - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. **Definitions**

16.1 **Claim:** A written statement by the Claimant including at a minimum:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
4. A brief description of the labor, materials, or equipment furnished;
5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction

Contract or to perform and complete or comply with the other material terms of the Construction Contract.

- 16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
18. Modifications to this Bond are as follows:

POWER OF ATTORNEY

(Attach Power of Attorney Here)

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CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:	City of Elizabeth City	Owner's Contract No.:
Contractor:		Contractor's Project No.:
Engineer:	JMT	Engineer's Project No.: 23-02443-002
Project:	Ray Street at Brooks Avenue Water and Sewer Replacement	Contract Name:

This [preliminary] [final] Certificate of Substantial Completion applies to:

All Work The following specified portions of the Work:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work shall be as provided in the Contract, except as amended as follows: *[Note: Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.]*

Amendments to Owner's responsibilities: None
 As follows

Amendments to Contractor's responsibilities: None
 As follows:

The following documents are attached to and made a part of this Certificate: *[punch list; others]*

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract.

EXECUTED BY ENGINEER:	RECEIVED:	RECEIVED:
By: _____ (Authorized signature)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

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**STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT**

TABLE OF CONTENTS

	Page
Article 1 – Definitions and Terminology	1
1.01 Defined Terms	1
1.02 Terminology	5
Article 2 – Preliminary Matters	6
2.01 Delivery of Bonds and Evidence of Insurance	6
2.02 Copies of Documents	6
2.03 Before Starting Construction	6
2.04 Preconstruction Conference; Designation of Authorized Representatives	7
2.05 Initial Acceptance of Schedules	7
2.06 Electronic Transmittals	7
Article 3 – Documents: Intent, Requirements, Reuse.....	8
3.01 Intent	8
3.02 Reference Standards	8
3.03 Reporting and Resolving Discrepancies	9
3.04 Requirements of the Contract Documents	9
3.05 Reuse of Documents	10
Article 4 – Commencement and Progress of the Work	10
4.01 Commencement of Contract Times; Notice to Proceed	10
4.02 Starting the Work	10
4.03 Reference Points	11
4.04 Progress Schedule	11
4.05 Delays in Contractor’s Progress	11
Article 5 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions	12
5.01 Availability of Lands	12
5.02 Use of Site and Other Areas	12
5.03 Subsurface and Physical Conditions	13
5.04 Differing Subsurface or Physical Conditions	14
5.05 Underground Facilities	15
5.06 Hazardous Environmental Conditions at Site	17
Article 6 – Bonds and Insurance	19
6.01 Performance, Payment, and Other Bonds	19

6.02	Insurance—General Provisions	20
6.03	Contractor’s Insurance	21
6.04	Owner’s Liability Insurance	23
6.05	Property Insurance	23
6.06	Waiver of Rights	25
6.07	Receipt and Application of Property Insurance Proceeds	26
Article 7 – Contractor’s Responsibilities		27
7.01	Supervision and Superintendence	27
7.02	Labor; Working Hours	27
7.03	Services, Materials, and Equipment	27
7.04	“Or Equals”	27
7.05	Substitutes	29
7.06	Concerning Subcontractors, Suppliers, and Others	30
7.07	Patent Fees and Royalties	32
7.08	Permits	32
7.09	Taxes	32
7.10	Laws and Regulations	33
7.11	Record Documents	33
7.12	Safety and Protection	33
7.13	Safety Representative	34
7.14	Hazard Communication Programs	34
7.15	Emergencies	35
7.16	Shop Drawings, Samples, and Other Submittals	35
7.17	Contractor’s General Warranty and Guarantee	37
7.18	Indemnification	38
7.19	Delegation of Professional Design Services	38
Article 8 – Other Work at the Site.....		39
8.01	Other Work	39
8.02	Coordination	40
8.03	Legal Relationships	40
Article 9 – Owner’s Responsibilities.....		41
9.01	Communications to Contractor	41
9.02	Replacement of Engineer	41
9.03	Furnish Data	41
9.04	Pay When Due	41
9.05	Lands and Easements; Reports, Tests, and Drawings	41

9.06	Insurance	42
9.07	Change Orders	42
9.08	Inspections, Tests, and Approvals	42
9.09	Limitations on Owner’s Responsibilities	42
9.10	Undisclosed Hazardous Environmental Condition	42
9.11	Evidence of Financial Arrangements	42
9.12	Safety Programs	42
Article 10	– Engineer’s Status During Construction	42
10.01	Owner’s Representative	42
10.02	Visits to Site	42
10.03	Project Representative	43
10.04	Rejecting Defective Work	43
10.05	Shop Drawings, Change Orders and Payments	43
10.06	Determinations for Unit Price Work	43
10.07	Decisions on Requirements of Contract Documents and Acceptability of Work	43
10.08	Limitations on Engineer’s Authority and Responsibilities	44
10.09	Compliance with Safety Program	44
Article 11	– Amending the Contract Documents; Changes in the Work	44
11.01	Amending and Supplementing Contract Documents	44
11.02	Owner-Authorized Changes in the Work	45
11.03	Unauthorized Changes in the Work	45
11.04	Change of Contract Price	46
11.05	Change of Contract Times	47
11.06	Change Proposals	47
11.07	Execution of Change Orders	48
11.08	Notification to Surety	48
Article 12	– Claims.....	48
12.01	Claims	48
Article 13	– Cost of the Work; Allowances; Unit Price Work	49
13.01	Cost of the Work	49
13.02	Allowances	52
13.03	Unit Price Work	52
Article 14	– Tests and Inspections; Correction, Removal or Acceptance of Defective Work	53
14.01	Access to Work	53
14.02	Tests, Inspections, and Approvals	53
14.03	Defective Work	54

14.04	Acceptance of Defective Work	55
14.05	Uncovering Work	55
14.06	Owner May Stop the Work	56
14.07	Owner May Correct Defective Work	56
Article 15	– Payments to Contractor; Set-Offs; Completion; Correction Period	56
15.01	Progress Payments	56
15.02	Contractor’s Warranty of Title	59
15.03	Substantial Completion	60
15.04	Partial Use or Occupancy	60
15.05	Final Inspection	61
15.06	Final Payment	61
15.07	Waiver of Claims	62
15.08	Correction Period	63
Article 16	– Suspension of Work and Termination	64
16.01	Owner May Suspend Work	64
16.02	Owner May Terminate for Cause	64
16.03	Owner May Terminate For Convenience	65
16.04	Contractor May Stop Work or Terminate	65
Article 17	– Final Resolution of Disputes	66
17.01	Methods and Procedures	66
Article 18	– Miscellaneous	66
18.01	..Giving Notice	66
18.02	Computation of Times	66
18.03	Cumulative Remedies	66
18.04	Limitation of Damages	67
18.05	No Waiver	67
18.06	Survival of Obligations	67
18.07	Controlling Law	67
18.08	Headings	67

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance

with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce

such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 *Terminology*

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
2. a preliminary Schedule of Submittals; and
3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other

submittals, in electronic media or digital format, either directly, or through access to a secure Project website.

- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible

after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;

2. abnormal weather conditions;
 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.
- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

- A. *Limitation on Use of Site and Other Areas:*
 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for

injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all 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) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
 - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
 - D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of

the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating

whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

D. *Possible Price and Times Adjustments:*

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.
- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such

removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.

- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors 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) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was

not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors 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) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the

Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.

- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation*: Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).
 - 4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered*: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
 - 1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 - 2. claims for damages insured by reasonably available personal injury liability coverage.
 - 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content*: Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
 - 1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.

2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability*: Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.
- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not

by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.

- I. *General provisions:* The policies of insurance required by this Paragraph 6.03 shall:
 1. include at least the specific coverages provided in this Article.
 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary

Conditions, the parties required to be insured shall collectively be referred to as “insureds.”

2. be written on a builder’s risk “all risk” policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder’s risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
6. extend to cover damage or loss to insured property while in transit.
7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder’s risk insurance.
8. allow for the waiver of the insurer’s subrogation rights, as set forth below.
9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
10. not include a co-insurance clause.
11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
12. include performance/hot testing and start-up.

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13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change*: All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles*: The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance*: If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance

held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner’s written consent, which will not be unreasonably withheld.

7.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 *“Or Equals”*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The

specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or “or equal” item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.

1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an “or equal” item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor’s Expense:* Contractor shall provide all data in support of any proposed “or equal” item at Contractor’s expense.
- C. *Engineer’s Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each “or-equal” request. Engineer may require Contractor to furnish additional data about the proposed “or-equal” item. Engineer will be the sole judge of acceptability. No “or-equal” item will be ordered, furnished, installed, or utilized until Engineer’s review is complete and Engineer determines that the proposed item is an “or-equal”, which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer’s Determination:* Neither approval nor denial of an “or-equal” request shall result in any change in Contract Price. The Engineer’s denial of an “or-equal” request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an “or-equal” item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.
- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require

a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.

- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- O. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor

2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

- A. 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 Owner or Engineer, 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 Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors 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) arising out of or relating to 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 specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors 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) arising out of or relating to 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.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors 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) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples:*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.
3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
 1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
 7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or

8. any correction of defective Work by Owner.

- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors 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) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage 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 but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents,

Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's

Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.

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- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.
 - D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all 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) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to

make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3)

other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.

2. *Work Change Directives*: A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.
3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
 - 1. a mutually acceptable fixed fee; or
 - 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.
 - 1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 - 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 - 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or

Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.
 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval:* If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim:* If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results:* If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work:* The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
 5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

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- b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee*: When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.
- E. *Documentation*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*: Contractor agrees that:
1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

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- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
 - C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
 - D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
 - E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other

representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 3. by manufacturers of equipment furnished under the Contract Documents;
 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising

out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the

Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. 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 also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or

- b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
 4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
 5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
 6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.
- D. *Payment Becomes Due:*
1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.
- E. *Reductions in Payment by Owner:*
1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from

-
- workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately

functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

- d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Application and Acceptance:*
1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.
- D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special

guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay 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) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. 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 Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their

reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if

repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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SUPPLEMENTAL CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC® C-700 (2013 Edition). All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

SC-1.01.A.8 Add the following language at the end of last sentence of Paragraph 1.01.A.8:

“The Change Order form to be used on this Project is EJCDC C-941.”

SC-1.01.A.48 Add the following language at the end of last sentence of Paragraph 1.01.A.48:

“A Work Change Directive cannot change Contract Price or Contract Times without a subsequent Change Order.”

SC 1.01.A.49 Add the following new Paragraph after Paragraph 1.01.A.48:

“Abnormal Weather Conditions – Conditions of extreme or unusual weather for a given region, elevation, or season as determined by Engineer. Extreme or unusual weather that is typical for a given region, elevation, or season should not be considered Abnormal Weather Conditions.”

ARTICLE 2 – PRELIMINARY MATTERS

No Changes or Supplementary Conditions.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

No Changes or Supplementary Conditions.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

SC 4.01.A Amend the last sentence of Paragraph 4.01.A by striking out the following words:

“In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.”

SC 4.05.C.2 Amend Paragraph 4.05.C.2 by striking out the following text: “abnormal weather conditions;” and inserting the following text:

Abnormal Weather Conditions;

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC 5.03 Delete Paragraphs 5.03.A and 5.03.B in their entirety and insert the following:

- A. No reports of explorations or tests of subsurface conditions at or adjacent to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

- SC 5.06 Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:
- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
 - B. Not Used.

ARTICLE 6 – BONDS AND INSURANCE

- SC 6.03 Add the following new paragraph immediately after Paragraph 6.03.J:
- K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:
 - 1. Workers' Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

State:	<u>Statutory</u>
Federal, if applicable (e.g., Longshoreman's):	<u>Statutory</u>
Employer's Liability:	
Bodily injury, each accident	\$ <u>500,000</u>
 - 2. Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

General Aggregate	\$ <u>2,000,000</u>
Products - Completed Operations Aggregate	\$ <u>1,000,000</u>
Personal and Advertising Injury	\$ <u>1,000,000</u>
Each Occurrence (Bodily Injury and Property Damage)	\$ <u>1,000,000</u>
 - 3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

Bodily Injury:	
Each person	\$ <u>1,000,000</u>
Each accident	\$ <u>1,000,000</u>
Property Damage:	
Each accident	\$ <u>1,000,000</u>

[or]

Combined Single Limit of	\$ <u>1,000,000</u>
4. Excess or Umbrella Liability:	
Per Occurrence	\$ <u>5,000,000</u>
General Aggregate	\$ <u>5,000,000</u>
5. Contractor's Pollution Liability:	
Each Occurrence	\$ <u>N.A.</u>
General Aggregate	\$ <u>N.A.</u>
<input checked="" type="checkbox"/>	If box is checked, Contractor is not required to provide Contractor's Pollution Liability insurance under this Contract
7. Contractor's Professional Liability:	
Each Claim	\$ <u>N.A.</u>
Annual Aggregate	\$ <u>N.A.</u>

SC-6.05.A. Add the following to the list of items in Paragraph 6.05.A, as numbered items:

15. include for the benefit of Owner loss of profits and soft cost coverage including, without limitation, fixed expenses and debt service for a minimum of 12 months with a maximum deductible of 30 days, plus attorneys fees and engineering or other consultants' fees, if not otherwise covered;
17. include by express endorsement coverage of damage to Contractor's equipment.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

SC-7.02.B. Add the following new subparagraphs immediately after Paragraph 7.02.B:

1. Regular working hours will be 8:00 am to 5:00 pm.

SC-7.02.C. Add the following new paragraph immediately after Paragraph 7.02.B:

Contractor shall be responsible for the cost of any overtime pay or other expense incurred by the Owner for Engineer's services (including those of the Resident Project Representative, if any), Owner's representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

SC 7.04.A Amend the third sentence of Paragraph 7.04.A by striking out the following words:

Unless the specification or description contains or is followed by words reading that no like, equivalent, or 'or-equal' item is permitted.

SC 7.06.A Amend Paragraph 7.06.A by adding the following text to the end of the Paragraph:

The Contractor shall not award work valued at more than fifty percent of the Contract Price to Subcontractor(s), without prior written approval of the Owner.

SC 7.06.B Delete paragraph 7.06.B in its entirety and insert the following in its place:

[Deleted]

SC 7.06.E Amend the second sentence of Paragraph 7.06.E by striking out the words: "Owner may also require Contractor to retain specific replacements; provided, however, that".

ARTICLE 8 – OTHER WORK AT THE SITE

No Changes or Supplementary Conditions.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

No Changes or Supplementary Conditions.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.A:

B. On this Project, by agreement with the Owner, Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

No Changes or Supplementary Conditions.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

SC 15.01.B Amend the second sentence of Paragraph 15.01.B.1 by striking out the following text: "a bill of sale, invoice, or other."

SC 15.01.D.1 Delete Paragraph 15.01.D.1 in its entirety and insert the following in its place:

The Application for Payment with Engineer's recommendations will be presented to the Owner for consideration. If the Owner find the Application for Payment acceptable, the recommended amount less any reduction under the provisions of Paragraph 15.01.E will become due twenty (20) days after the Application for Payment is presented to the Owner, and the Owner will make payment to the Contractor.

SC 15.02.A Amend Paragraph 15.02.A by striking out the following text: "no later than seven days after the time of payment by Owner" and insert "no later than the time of payment by Owner."

SC 15.03.B Add the following new subparagraph to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

ARTICLE 17 – 17 – FINAL RESOLUTION OF DISPUTES

No Changes or Supplementary Conditions.

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**CERTIFICATE OF INSURANCE
(Workmen's Compensation and Liability)**

This certificate of insurance neither affirmatively nor negatively amends, extends, or alters the coverage afforded by the policy(ies) listed on this certificate.

Project _____ Location _____
 Owner _____ Address _____
 Contractor (Insured) _____ Address _____

The undersigned hereby certifies that the following policies, subject to their terms, conditions, and exclusions have been issued by the named companies to the above insured and are presently in full force and effect:

A. WORKMEN'S COMPENSATION:

Policy No. _____ Expiration Date _____
 Insurance Co. _____ Address _____

COVERAGE: Statutory Workmen's Compensation. Employers Liability Limit \$ _____
 Each Accident.

Locations Covered: _____

B. COMPREHENSIVE GENERAL LIABILITY & PROPERTY DAMAGE:

Policy No. _____ Expiration Date _____
 Insurance Co. _____ Address _____

LIMITS:

Bodily Injury, including Personal Injury.

\$ _____ Each Person Property Damage \$ _____ Each
 Occurrence
 \$ _____ Each Occurrence \$ _____ Aggregate
 \$ _____ Aggregate Other _____

OVERAGE PROVIDED (Check Applicable Squares):

	Yes	No	Property Damage Liability Includes:	Yes	No
Premises Operations			Damage Due to Blasting (explosion)		
Subcontractor Operations			Damage Due to Collapse		
Personal Injury			Damage to Underground Facilities		
Completed Operations			Broad Form Property Damage: Operations of Contractor Contractual		
Contractual Liability (Per Spec)					
Other					

C. COMPREHENSIVE AUTOMOBILE LIABILITY & PROPERTY DAMAGE:

Policy No. _____ Expiration Date _____
 Insurance Co. _____ Address _____

LIMITS:

Bodily Injury
\$ _____ Each Person Property Damage \$ _____ Each Occurrence
\$ _____ Each Occurrence \$ _____ Aggregate
\$ _____ Aggregate Other _____

COVERAGE PROVIDED - for operation of all owned, non-owned, and hired vehicles.

D. UMBRELLA EXCESS LIABILITY:

Policy No. _____ Expiration Date _____
Insurance Co. _____ Address _____

LIMITS: Single Limit Bodily Injury and Property Damage \$ _____ Each Occurrence

COVERAGE PROVIDED - applies in excess of the coverages listed above for Employer's Liability, Comprehensive General, Automotive, and Property Damage Coverage.

The undersigned further certifies that in the event of cancellation or any material change in any of the above policies, thirty (30) days prior written notice of such cancellation or change shall be delivered by registered or certified mail to the above Owner.

Name of Agency _____ Address _____

Date _____ By _____

CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS

TO: (OWNER)

PROJECT INFORMATION
(Name & Location)

CONTRACT DATE

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED
HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR: _____

Address: _____

By: _____

Notary:

Subscribed and sworn to before me this date:

Signature Notary Public : _____

Printed Name: _____

My Commission Expires: _____

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**MBE-WBE COMPLIANCE SUPPLEMENT
AND MWBE DOCUMENTATION FOR CONTRACT
PAYMENTS FORMS**

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NC Division of Water Infrastructure **Small and Disadvantaged Business** **Utilization Compliance Supplement** **Instructions for CDBG-I Program**

(This package combines the various aspects of State of NC HUB program requirements and Federal DBE requirements into a single compliance supplement to eliminate redundancy and ambiguity)

ITEM:	WHAT TO DO WITH IT:
Good Faith Efforts Form	Provided by all bidders to be responsive
Table A (summary of firms on job)	Provided by all bidders to be responsive
Table B (per trade being subcontracted)	Provided by all bidders to be responsive (if subcontracting is achieved)
Provide documentation of anything you did that is mentioned later in this supplement. Documentation includes, but not limited to: <ul style="list-style-type: none"> • Proof of trade paper advertisement • Print out of DBE sources used • Solicitation via emails and/or letters 	Provided by all bidders to be responsive (if subcontracting is achieved) Local Governments must retain copies in grant files.

NOTES ON THIS COMPLIANCE SUPPLEMENT:

Small and Disadvantaged Businesses include all the below:

- MBE = Minority Owned Business Enterprise
- HUB = Historically Underutilized Business
- WBE = Women Owned Business Enterprise
- DBE = Disadvantaged Business Enterprise
- **SB = Small Business**
- **VO = Veteran Owned**
- **LSAF = Labor Surplus Area Firms = maintained by Department of Labor (DOL) every fiscal year. (See <https://www.dol.gov/agencies/eta/lssa> for current listing)**

State of NC MBE/WBE participation goal: 10% (combined)

These are goals that the State of North Carolina reports against and are not quotas. Good faith efforts must be adhered to, and all forms provided regardless of what percentage utilization is achieved.

Small and Disadvantaged Business Utilization Certification:

For a firm to count towards the goals, a firm must be properly certified. **Table A** and **Table B** both provide spaces to note who certified the firm. The North Carolina Department of Administration (NCDOA) (<https://ncadmin.nc.gov/businesses/hub>) and North Carolina Department of Transportation (NCDOT) (<https://www.ebs.nc.gov/VendorDirectory/default.html>) are the most common certifications we see listed. However, some contractors do not register with both agencies; therefore, check both lists. All certifications will be verified during the review of bids.

You have any questions on complying with these requirements, please contact the HUB office at 984-236-0130 or visit their website at <https://ncadmin.nc.gov/businesses/hub>.

GUIDANCE ON Small and Disadvantaged Business Utilization OUTREACH

1. Minimum Acceptable Outreach Standards

The program shall include **MBE, WBE, DBE, Small Business, Veteran Owned and Labor Surplus Area Firms** in all contracting activities entered by the participating jurisdiction to facilitate the provision of any federal and state law applicable to such jurisdiction. Minimum HUD standards require that each participating jurisdiction's outreach effort to minority and women-owned businesses be:

- A good faith, comprehensive and continuing endeavor to solicit bids from **Small and Disadvantaged Business Utilization**;
- Supported by a statement of public policy and commitment published in the print media of widest local circulation;
- Supported by an office and/or a key, ranking staff person with oversight responsibilities and access to the chief elected official; and
- Designed to utilize all available and appropriate public and private sector local resources.

2. Guidelines for Outreach Program

Under the minimum HUD standards cited above, the following guidelines are provided for use by participating jurisdictions in implementing outreach programs to ensure the inclusion, to the maximum extent possible, of entities owned by **small and disadvantaged businesses**. Each participating jurisdiction should:

- Develop a systematic method for identifying and maintaining an inventory of certified **small and disadvantaged businesses**, their capabilities, services, supplies and/or products;
- Utilize the local media, electronic and print, to market and promote contract and business opportunities for **Small and Disadvantaged Business Utilization**;
- Develop informational and documentary materials (fact sheets, program guides, procurement forecasts, etc.) on contract/subcontract opportunities for **Small and Disadvantaged Business Utilization**;
- Develop procurement procedures that facilitate opportunities for **Small and Disadvantaged Business Utilization** to participate as vendors and supplies of goods and services;
- Sponsor business opportunity-related meetings, conferences, seminars, etc., with **Small and Disadvantaged Business** organizations; and
- Maintain centralized records with statistical data on the utilization and participation of **Small and Disadvantaged Business Utilization** as contractors/subcontractors in all HUD-assisted program contracting activities.

Each participating jurisdiction, utilizing the standards and guidelines listed above, shall prescribe procedures and actions it will undertake in implementing a **Small and Disadvantaged Business Utilization** outreach program. The above items represent basic outreach-related activities and are not all-inclusive actions a participating jurisdiction may undertake.

Pertinent State of North Carolina General Statutes and Federal Regulations Regarding Small and Disadvantaged Business Utilization Compliance. The provisions in this Compliance Supplement constitute compliance with: *N.C.G.S. 143-128.2, N.C.G.S. 143.131(b), 143.64.31(a), N.C.G.S. 143.128.3, N.C.G.S. 143.133.1 and 2 C.F.R. 200.321.*

RESOURCES

Some sources for identifying **Small and Disadvantaged Business** firms:

- <https://www.doa.nc.gov/divisions/historically-underutilized-businesses-hub> (NCDOA)
- <https://www.ebs.nc.gov/VendorDirectory/default.html> (NCDOT)

Some sources for finding minority trade papers for potential solicitation advertisements and Federal advertising options:

- <https://www.mbda.gov/> (US Dept. of Commerce)

Section 3 Information resources available here:

- <https://www.deq.nc.gov/about/divisions/water-infrastructure/i-have-funding/cdbg-i-compliance-and-reporting-information#Tab-Section3Resources-1830>

GOOD FAITH EFFORTS FORM

Attempts to provide subcontracting opportunities for **Small and Disadvantaged Business** firms. Per 01 NCAC 30I .0101, 50 points must be claimed below by the bidder. *(This is identical to State of NC Affidavit A)*

- 1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- 2 --(10 pts)** Made the construction plans, specifications and requirements available for review by prospective minority businesses or providing these documents to them at least 10 days before the bids are due.
- 3 – (15 pts)** Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- 4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- 5 – (10 pts)** Attended pre-bid meetings scheduled by the public owner.
- 6 – (20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- 7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- 8 – (25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers to help minority businesses in establishing credit.
- 9 – (20 pts)** Negotiated joint venture and partnership arrangements with minority businesses to increase opportunities for minority business participation on a public construction or repair project when possible.
- 10 - (20 pts)** Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

Results of Good Faith Efforts Undertaken (you must check one box below)

- No subcontractors are being used for this contracted work. Fill out **Table A** listing only the Prime Contractor. *(This statement takes the place of State of NC Affidavit B)*
- Subcontractors are being used. Fill out **Table A** to list the Prime Contractor and selected subcontractors. Fill out **Table B** for each trade. **Each Table B lists a minimum of 3 firms.**
- Subcontractors are being used. If any **Table B** has fewer than 3 solicitations, you must also advertise in a **Small and Disadvantaged Business** trade paper and indicate what source of **Small and Disadvantaged Business** firms you used (must list at least one). Some possible papers and sources of **Small and Disadvantaged Business** firms are listed in the Instructions of this Supplement.

Name of the Trade Paper: _____

Submit proof of advertisement with package

M/WBE Sources: Source: _____ Source: _____

Submit printouts from **small and disadvantaged business** source(s).

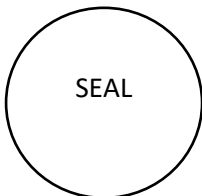
Certification Statement and Affidavit of Contractor.

The below affidavit constitutes compliance with 01NCAC 30I .0308(7)(a) and (b) and takes the place of State of North Carolina Affidavits C and D.

I have read the information in this compliance supplement and all information provided to the State in this package is accurate and true to the extent of my knowledge including the calculated percentages and the good faith efforts presented herein.

Prime Contractor Company Name (Print)

Prime Contractor Representative (Sign & Date)



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My Commission Expires _____

Table A: Prime Contractor and List of Selected Subcontractors

List Prime and ALL the selected subcontractors (both **Small and Disadvantaged Businesses** and non- **Small and Disadvantaged Businesses**) being used on the project (use multiple **Table A** if needed). Each Trade listed on this sheet should have a **completed Table B: Subcontract Solicitation List** showing the **Small and Disadvantaged Business** firms (and Section 3 firms**) contacted and given opportunities to bid.

Company Name (list prime first then subs)	Company Address and Phone	Trade (Above) and Price (Below)	Firms certified by which state agency (NCDOT, NCDOA)? <u>if applicable*</u>	(Local Governments Only) Listed on federal and state debarred lists?
		\$		
		\$		
		\$		
		\$		

Calculate M/WBE utilization as a percent (00.00%) of the prime contract. Limited to 100% even if the Prime is a DBE.

M/WBE/DBE subs total	\$	_____ %
Prime Contract Price	\$	

*Submit documentation of certification

MWBE/DBE/HUB outreach should be done concurrently with Section 3 firm outreach. Ask the **Small and Disadvantaged Business firms if they may qualify for Section 3 and if they will complete the Section 3 self-certification.

Note: Table A substitutes the State of NC "Identification of Minority Participation" form

Table B: Subcontract Solicitation List

Each Trade being subcontracted should have a completed **Table B** showing the **small and disadvantaged business** firms (and Section 3***) contacted and given opportunities to bid. Use as many of these sheets as necessary to cover every trade being subbed out.

Trade: _____ (enter the trade being solicited, paving, hauling etc.)

- List the firm being used on the project first. If a minimum of three Small and Disadvantaged Business firms are not listed, additional information must be provided showing advertisements and/or sources used to identify **Small and Disadvantaged Business** subs.

Company Name	Company Address and Phone	Firms' classification and certified by which state agency (NCDOT, NCDOA), if applicable*	How was this firm contacted (email, letter, phone) and what was the result of the solicitation? **

*Submit documentation of certification

Must all solicitation documentation, including but not limited to copies of emails, letters, contact lists, advertisement in trade newspaper, etc. If phone calls were made this sheet can serve as documentation of calls. * **Small and Disadvantaged Business** Outreach should be done concurrently with Section 3 firm outreach. Ask the **Small and Disadvantaged Business** firms if they may qualify for Section 3 and if they will complete the Section 3 self-certification.

APPENDIX E

MWBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor/Architect: _____

Address & Phone: _____

Project Name: _____

Pay Application #: _____ Period: _____

The following is a list of payments to be made to minority business contractors on this project for the above-mentioned period.

Firm Name	*Minority Category	Total Contract Amount	Amount Paid this Period	Total Payment Amount to date	Percentage of Work Completed	Scheduled Start Date	Scheduled End Date

***Minority categories:** Black, African American (**B**), Hispanic (**H**), Asian American (**A**), American Indian (I), Female (**F**)

Date: _____ Approved/Certified By: _____

Name

Title

Signature

THIS DOCUMENT MUST BE SUBMITTED WITH EACH PAY REQUEST & FINAL PAYMENT

CDBG-I CONTRACT PROVISIONS

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Required Contract Provisions for CDBG-I Project Contracts, Agreements, and Subcontracts

Conflict of Interest (24 CFR 570.611)

No person who is an employee, agent, consultant, officer, or elected official or appointed official of the recipient, or of any designated public agencies, or of subrecipients that are receiving funds under this part, who exercise or have exercised any functions or responsibilities with respect to CDBG activities assisted under this part, or who are in a position to participate in a decision making process or gain inside information with regard to such activities, may obtain a financial interest or benefit from a CDBG-assisted activity, or have a financial interest in any contract, subcontract, or agreement with respect to a CDBG-assisted activity, or with respect to the proceeds of the CDBG-assisted activity, either for themselves or those with whom they have business or immediate family ties, during their tenure or for one year thereafter.

Contractors shall take appropriate steps to assure compliance with the above paragraph and will incorporate the following provision into every sub-contract:

Interest of Sub-Contractor and Employees. The Sub-Contractor covenants that no person who presently exercises any functions or responsibilities in connection with the Community Development Block Grant Program has any personal financial interest, direct or indirect, in this Contract. Any interest on the part of the Sub-Contractor or his employees must be disclosed to the Recipient, provided, however, that this paragraph shall be interpreted in such a manner so as not to unreasonably impede the statutory requirement that maximum opportunity be provided for employment of and participation by residents of the area.

Discrimination Clauses and Provisions.

- Title VI of the Civil Rights Act of 1964 (42 U.S.C 20000d)
No person shall, on the ground of race, color, or national origin, be excluded from employment or participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.
- Section 109 of Title I of the Housing and Community Development Act of 1974, as amended (42 U.S.C. 5309) and regulations at CFR 570.602.
No person shall on the grounds of race, color, national origin, or sex, be excluded from participation in, be denied the benefits of, be denied employment in, or be subjected to discrimination under any CDBG program or activity.
- Section 504 of the Rehabilitation Act of 1973, as amended, (29 U.S.C. 794)
No otherwise qualified handicapped individual shall, solely by reason of his/her handicap, be excluded from the participation in, be denied the benefits of, be denied employment in, or be discriminated against under any program or activity receiving federal assistance.

- Age discrimination Act of 1975, as amended (42 U.S.C. 6101)
No person shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal assistance.
- Executive Order 11246, as amended by Executive Order 12086, and regulations in 41 CFR 60
No person shall be discriminated against on the basis of race, color, religion, sex, or national origin in all phases of employment during the performance of federally-assisted construction contracts and subcontracts. Contractors and subcontractors shall take affirmative action to ensure fair treatment in employment, including recruitment, training, promotion, demotion, transfer, layoff, termination, and pay.
 1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions in this nondiscrimination clause.
 2. The Contractor will, in all solicitations or advertisement for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
 3. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advertising the labor union or worker's representative of the Contractor's commitments under section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
 4. The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
 5. The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
 6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, and orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures

authorized in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

7. The Contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontractor or purchase order as the contracting agency and may direct the subcontractor or vendor as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event the contract becomes involved in, or threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

Access to Records and Record Retainage Clause

Records shall be maintained in accordance with requirements prescribed by HUD with respect to all matters covered by this contract. Except as otherwise authorized by HUD, such records shall be maintained for a period of five (5) years after receipt of the final payment under this contract.

All costs shall be supported by properly executed payrolls, time records, invoices, contracts, agreements, vouchers, orders, or other accounting documents. All documents pertaining in whole or in part to this contract shall be clearly identified and readily accessible.

At any time during normal business hours and as often as the State of North Carolina and its Agencies/Departments, HUD and/or the Comptroller General of the United States may deem necessary, the Contractor shall make available to the Town, HUD and/or representatives of the Comptroller General for examination all of its records, with respect to all matters covered by this contract, and will permit the State, HUD and/or representatives of the Comptroller General to audit, examine and make excerpts or transcripts from such records including plans, contracts, invoices, materials, payrolls, records of personnel, conditions of employment and any other data relating to matters covered by this contract.

Legal Remedies Provision and Termination Provision

For Legal Remedies Provisions and Termination Provision refer to the EJCDC C-700 Standard General Conditions of the Construction Contract provided herein and herewith Appendix II to Part 200.

Use of Debarred, Suspended or Ineligible Contractors

CDBG funds shall not be used directly or indirectly to employ, award contracts to, or otherwise engage the services of, or fund any Contractor or subrecipient during any period of debarment, suspension or placement in ineligibility status under the provisions of 24 CFR Part 24. (Government Debarment and Suspension Regulations).

Section 3 Clause

~~[Go here and download a copy of appropriate Section 3 Clause for the project.](#)~~

Appendix II to Part 200 – Contract Provisions for Non-Federal Entity Contracts Under Federal Award

~~[Go here and download a copy of the complete Appendix II.](#)~~

SECTION 3 CLAUSE

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**ALL SECTION 3 COVERED CONTRACTS SHALL INCLUDE THE FOLLOWING CLAUSE
(REFERRED TO AS THE SECTION 3 CLAUSE):**

- A. The work to be performed under this Contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended (12 U.S.C. §1701u) (“**Section 3**”). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted developments covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons including persons who are recipients of HUD assistance for housing, with preference for both targeted workers living in the service area or neighborhood of the Development and Youthbuild participants, as defined at 24 CFR Part 75 (“**Section 3 Regulations**”).
- B. The Parties agree to comply with HUD's regulations in Section 3 Regulations, which implement Section 3. As evidenced by their execution of this Contract, the Parties certify that they are under no contractual or other impediment that would prevent them from complying with the Section 3 Regulations.
- C. The Contractor agrees to send to each labor organization or representative or workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers’ representative of the contractor’s commitments under this Section 3 clause and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth the following: (i) minimum number and job titles subject to hire, (ii) availability of apprenticeship and training positions, (iii) qualifications for each, (iv) name and location of the person(s) taking applications for each of the positions, and (v) the anticipated date the work shall begin.
- D. The Contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in Section 3 Regulations and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in Section 3 Regulations. The Contractor will not subcontract with any subcontractor where the Contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in Section 3 Regulations.
- E. The Contractor will certify that any vacant employment positions, including training positions, that are filled (i) after a contractor is selected but before the contract is executed, and (ii) with persons other than those to whom the regulations of Section 3 Regulations require employment opportunities to be directed, were not filled to circumvent the Contractor’s obligations under Section 3 Regulations.
- F. Noncompliance with HUD's regulations in Section 3 Regulations may result in sanctions, termination of this Contract for default, and debarment or suspension from future HUD assisted contracts.

Section 3 Businesses (as defined by Section 3 Regulations) are encouraged to respond to this proposal.

Businesses that believe they meet the Section 3 criteria are encouraged to register as a Section 3 Business through HUD’s website: <https://portalapps.hud.gov/Sec3BusReg/BRegistry/RegisterBusiness>

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ANTI-LOBBYING CLAUSE

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INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitations for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Included prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

(b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).
11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503

**DAVIS-BACON WAGE DETERMINATION
AND STANDARDS GUIDE**

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"General Decision Number: NC20250069 01/03/2025

Superseded General Decision Number: NC20240069

State: North Carolina

Construction Type: Heavy

Counties: Beaufort, Bertie, Camden, Carteret, Chowan, Craven, Dare, Gates, Hertford, Hyde, Jones, Martin, Pamlico, Pasquotank, Perquimans, Tyrrell and Washington Counties in North Carolina.

HEAVY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 14026 generally applies to the contract.. The contractor must pay all covered workers at least \$17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 13658 generally applies to the contract.. The contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.

for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

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

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE:

UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the

state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

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

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

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

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via

email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

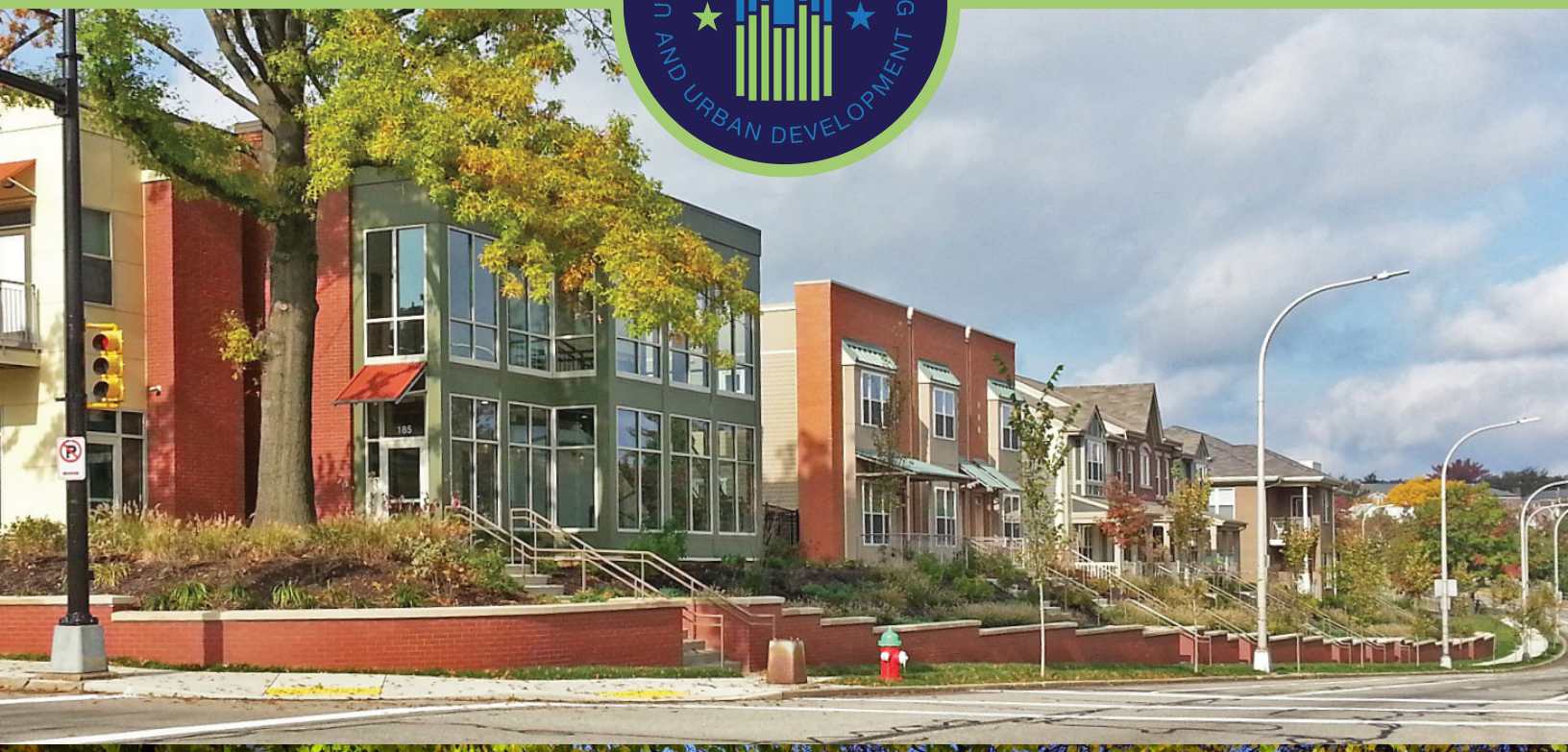
The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

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

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

=====

END OF GENERAL DECISION"



DAVIS-BACON AND LABOR STANDARDS AGENCY/CONTRACTOR GUIDE

Table of Contents

INTRODUCTION 3

KEY LABOR STANDARDS OBJECTIVES OF THE GUIDE 4

BASIC DBA DEFINITIONS 5

LCA RESPONSIBILITIES 10

LAWS AND REGULATIONS 11

CONTRACTOR RESPONSIBILITIES 21

CONTRACT ADMINISTRATOR RESPONSIBILITIES 21

LCA FLEXIBILITY FOR LABOR STANDARDS RESPONSIBILITIES . 21

**FEDERAL LABOR STANDARDS COMPLIANCE CHECKLIST FOR
DAVIS-BACON COVERED PROJECTS. 24**

REVIEWING PAYROLLS 24

REPORTING PAYROLLS 24

PAYROLL COMPLIANCE REVIEWS AND CORRECTIONS. 24

ADDITIONAL WORK CLASSIFICATION AND WAGE RATES 33

SANCTIONS AND RESTITUTION 33

APPENDIX 33



INTRODUCTION

This Guide has been developed as part of HUD’s communications strategy with its approximately 5,000 client agencies, and contractors performing work on construction projects that are assisted by the U.S. Department of Housing and Urban Development and subject to Davis-Bacon prevailing wage requirements. This Guide does not address contractor requirements involved in direct Federal contracting where HUD or another Federal agency enters into a procurement contract. While the guidance contained in this Guide is generally applicable to any Davis-Bacon-covered project, specific questions pertaining to direct Federal contracts should be addressed to the Contracting Officer who signed the contract for the Federal agency.

This Guide has been designed to help agencies develop organizational and administrative policies that will enable them to meet labor standards contractual responsibilities in the administration of HUD-assisted programs as efficiently as possible. It is also useful as a training tool and a ready reference for compliance staff. Further, it may be used by contractors to provide further background. While this Guide is intended to address numerous situations, it was not written to cover every possible labor standards issue. If there is a labor standards issue not addressed in this Guide, please contact your local HUD Labor Standards Specialist (LSS). Throughout this Guide, the acronym “LCA” or “LCAs” shall mean state, tribal, and local agencies.

This Guide also provides information to assist with Davis-Bacon labor standards compliance. HUD’s Office of Davis-Bacon and Labor Standards worked with the U.S. Department of Labor’s Wage and Hour Division to ensure that the labor standards provisions required to be incorporated in Davis-Bacon contracts and the specifics of complying with them represent the latest information. The U.S. Department of Labor (DOL) has general administrative oversight of all Federal contracting agencies, such as HUD, which administer the day-to-day responsibilities of enforcing Davis-Bacon provisions in construction contracts they either fund or assist in funding.

This Guide contains five main chapters. The first chapter includes basic DBA definitions that affect every Davis-Bacon-covered project. The second chapter lists the responsibilities of state, tribal, and local contracting agencies that administer HUD programs. The third chapter includes the laws and regulations associated with Federal labor standards administration and enforcement. The fourth chapter describes LCA flexibility for labor standards responsibilities. The fifth and final chapter discusses payroll compliance reviews and corrections.

Finally, not all HUD construction projects are covered by Davis-Bacon wage rates. For the purpose of this Guide, we are assuming that a determination has already been made that Davis-Bacon wage rates are applicable. If you need assistance in determining whether Davis-Bacon wage rates apply to a project or if you need other related technical assistance, please contact the HUD Labor Standards Field staff for your area. If you do not know which staff to contact, a list of Labor Standards field offices with their geographic areas, telephone numbers and email addresses are located on HUD’s Home Page at the address below.

RESOURCE

Visit the Office of Davis Bacon and Labor Standards online:
www.hud.gov/program_offices/davis_bacon_and_labor_standards



KEY LABOR STANDARDS OBJECTIVES OF THE GUIDE

The Office of Davis-Bacon and Labor Standards has identified five Key Labor Standards Objectives—the basics of what must be accomplished in order to protect workers’ rights. We also identified all the policies, procedures, and paperwork at our disposal—what we do ourselves and what we impose on contractors. HUD eliminated superfluous requirements and will not institute policies, procedures, or paperwork that is not required by statute or regulation, or that does not contribute to one or more of the Key Objectives.

Apply Davis-Bacon requirements properly

Make certain that labor standards, including Davis-Bacon prevailing wage rates, are applied where required. Ensure that any exemptions or exceptions are identified.

Through education and advice, support contractor compliance with labor standards

Provide basic training and technical support to contractors to ensure that they understand their obligations under prevailing wage and reporting requirements.

Monitor contractor performance

Perform reviews of certified payroll submissions and other information to help ensure contractor compliance with labor standards provisions and the payment of prevailing wages to workers.

Investigate probable violations and complaints of underpayment

Thoroughly explore any evidence of violations, especially allegations of underpayment.

Pursue debarment and other available sanctions against repeat labor standards violators

Carry out a zero tolerance policy toward contractors who violate prevailing wage laws.

RESOURCE

Program technical guidance

For interpretations of program requirements or handbooks and instructions on the use of forms:

Housing Programs - See our [Contact List](#) for help.



BASIC DBA DEFINITIONS

There are several compliance principles, definitions, and interpretations that affect every Davis-Bacon-covered project.

Responsibilities of employers

All employers (contractors, subcontractors, and any lower-tier subcontractors) are required to pay all laborers and mechanics employed or working on the site of the work unconditionally and not less often than once per week the full amount of wages and bona fide fringe benefits computed at rates not less than those contained in the wage decision. Employers must prepare, certify, and submit weekly payroll reports reflecting all the laborers and mechanics (employees) engaged in construction on the site of the work. Employers may also be required to submit related documentation in order to demonstrate compliance.

Responsibilities of the principal (prime) contractor

The principal contractor (also referred to as the “prime contractor”) is responsible for the full compliance of all employers (itself, subcontractors, and any lower-tier subcontractors) with the labor standards provisions applicable to the project.

Prime contractor

The principal contractor.

Subcontractor

All subcontractors and lower-tier subcontractors.

Employer

Any contractor, subcontractor, or lower-tier subcontractor that has engaged the services of laborers or mechanics on the project.

To make this Guide easier to understand, the term “prime contractor” will mean the principal contractor; “subcontractor” will mean all subcontractors including lower-tier subcontractors; and the term “employer” will mean all contractors as a group, including the prime contractor and any subcontractors and lower-tier subcontractors.

Laborers and mechanics

Those individuals whose duties are manual or physical in nature, including workers who are performing the work of a trade (e.g., electrician). “Laborers” and “mechanics” include apprentices, trainees, helpers, and, for contracts subject to the Contract Work Hours and Safety Standards Act (CWHSSA), watchmen and guards.

Working foremen

Foremen or supervisors that perform construction work and devote more than 20% of their time as a laborer or mechanic are treated, for labor standards purposes, as “laborers” or “mechanics” for their time spent working as a laborer or mechanic.

Exclusions

Persons whose duties are primarily administrative, managerial, or clerical are not laborers or mechanics.

Employee

Every person who performs the work of a laborer or mechanic is “employed” regardless of any contractual relationship that may be alleged to exist between a contractor or subcontractor and such person.

Working subcontractors

Persons who perform the work of laborers or mechanics and who represent themselves to be owners of businesses, sole proprietors, or self-employed are not exempt from prevailing wage requirements. These laborers and mechanics are “employed” and are entitled to the prevailing wage for the type of work they perform, and must be reported on the payroll report for their craft, hours of work, and wages paid. For additional information, see LR-96-01, Labor Standards for Self-Employed Laborers and Mechanics.



Administrative allowances

HUD permits administrative allowances concerning payroll reporting and certification requirements relating to the following:

- Owners of Businesses Working with Their Crew
- Owner/Operators of Power Equipment
- Owner/Operators of Trucks

Apprentice

A person employed and individually registered in a bona fide apprenticeship program. Bona fide programs are those that have been registered with DOL, Employment and Training Administration, Office of Apprenticeship, or with a DOL-recognized State Apprenticeship Agency (SAA). (Note that an SAA must also partner with a State Apprenticeship Council (SAC). The SAC must consist of an equal number of representatives of employer and employee organizations.)

Probationary apprentice

A person in the first 90 days of probationary employment as an apprentice in a bona fide apprenticeship program but who has not yet been formally registered in such program may be considered an “apprentice” provided that DOL or SAC has certified that such person is eligible for probationary employment as an apprentice.

Pre-apprentice

A person who is employed as a “pre-apprentice”—that is, in a preparatory position which may result in registration in an apprenticeship program—is not considered to be an “apprentice.”

Trainee

A person registered and receiving on-the-job training in a construction occupation pursuant to a training program approved in advance by the Office of Apprenticeship Training.

Prevailing wages or wage rates

Davis-Bacon prevailing wage rates generally appear as a basic hourly rate plus fringe benefits, if any. “Prevailing wage” is made up of two interchangeable components: the basic hourly wage, and fringe benefits. The total of the basic hourly wage and fringe benefits comprises the “prevailing wage” obligation. This obligation may be met by any combination of cash wages and creditable “bona fide” fringe benefits provided by the employer. For example:

The Davis-Bacon wage decision requires:

Basic Hourly Rate	\$10.00
Fringe Benefits	\$1.00
Total Prevailing Wage	\$11.00

Employers may comply by paying:

1. \$11.00 in cash wages;
2. \$10.00 plus \$1.00 in bona fide fringe benefits; or
3. Any combination of wages and benefits that totals \$11.00 per hour.



Piece rate/piece work employees

Employees whose earnings are calculated by the amount of work produced (rather than hours worked) must receive no less than the applicable DBRA/MWD (Davis-Bacon and Related Acts/Maintenance Wage Determination) wage rate based upon the hours of work performed. The employer must divide the piece rate earnings by the actual hours worked to determine the “effective” hourly rate. The effective hourly rate must be calculated for each week’s earnings and must be no less than the applicable prevailing wage rate. It does not matter whether the effective hourly rate changes from week to week as long as the result is at least as much as the prevailing wage rate. If the effective hourly rate is less than the applicable prevailing wage rate, the employee must be compensated at the prevailing wage rate for all hours worked.

Fringe benefits

Fringe benefits may include:

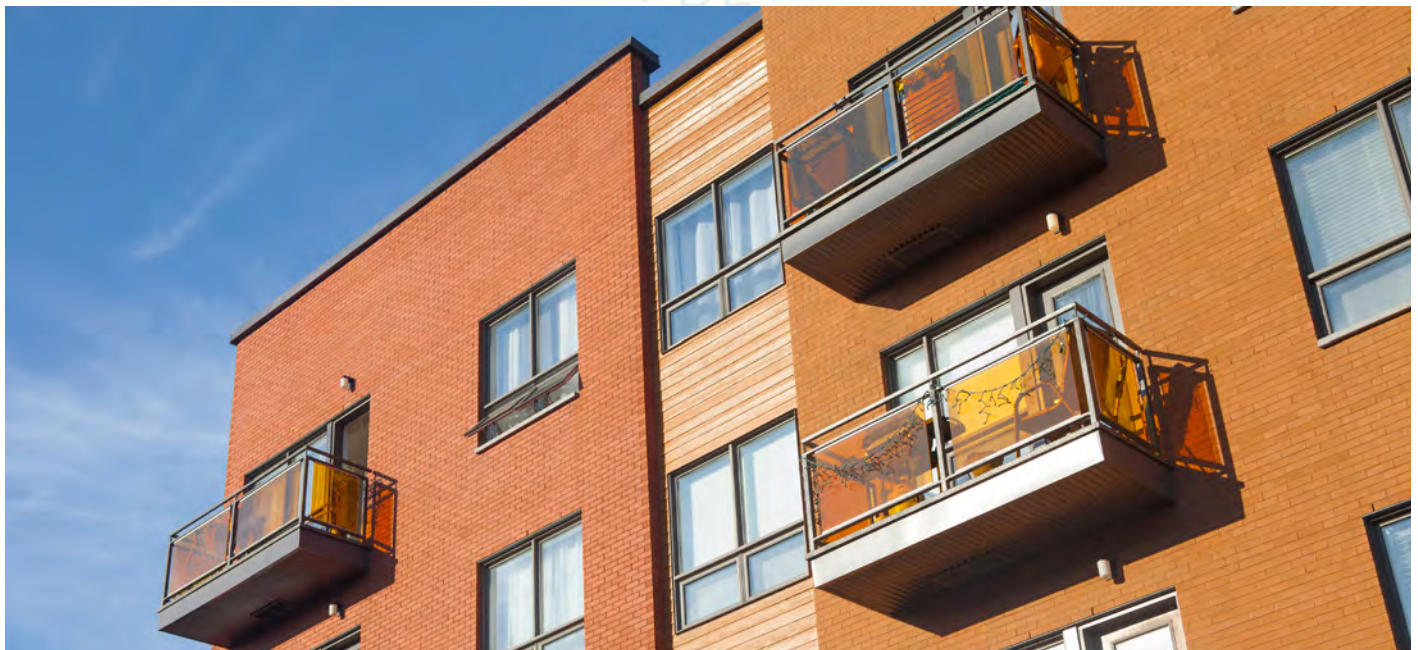
- Sick, vacation, or holiday pay;
- Costs to defray expenses of apprenticeship or similar programs;
- Medical or hospital care;
- Supplemental unemployment benefits;
- Life insurance;
- Pensions on retirement or death;
- Compensation for injuries or illness resulting from occupational activity;
- Other bona fide fringe benefits; or
- Insurance to provide any of the above.

MORE INFO

In addition, fringe benefits may reflect the rate of costs to the employer that may be reasonably anticipated in providing bona fide fringe benefits pursuant to an enforceable commitment to carry out a financially responsible program.

MORE INFO

Fringe benefits do not include employer contributions or payments required by other federal, state, or local law, such as FICA (Federal Insurance Contributions Act), workers’ compensation, or unemployment compensation.



Overtime

Overtime (O/T) hours are defined as all hours worked in excess of 40 hours in any workweek. Where governed by Federal labor standards, O/T hours shall be compensated at not less than one and one-half times the regular rate of basic pay plus the straight-time (S/T) rate of any required fringe benefits.

Deductions

The employer may make payroll deductions as permitted by DOL regulations in 29 CFR Part 3. These regulations prohibit the employer from requiring employees to “kick back” any of their earnings. Deductions may include employee obligations for income taxes, Social Security payments, insurance premiums, retirement contributions, savings accounts, and any other legally permissible deduction authorized by the employee. Deductions may also be made for payments on judgments and other financial obligations legally imposed against the employee (which will require documentation).

Site of work

The “site of work” is limited to the physical place or places where the construction called for in the contract will remain when work on it has been completed. “Site of work” includes other adjacent or nearby properties used by the contractor/subcontractor in the construction of the project (e.g., fabrication sites) provided they are dedicated exclusively

or nearly so to the performance of the contract or project, and are so located in proximity to the actual construction location that it would be reasonable to include them.

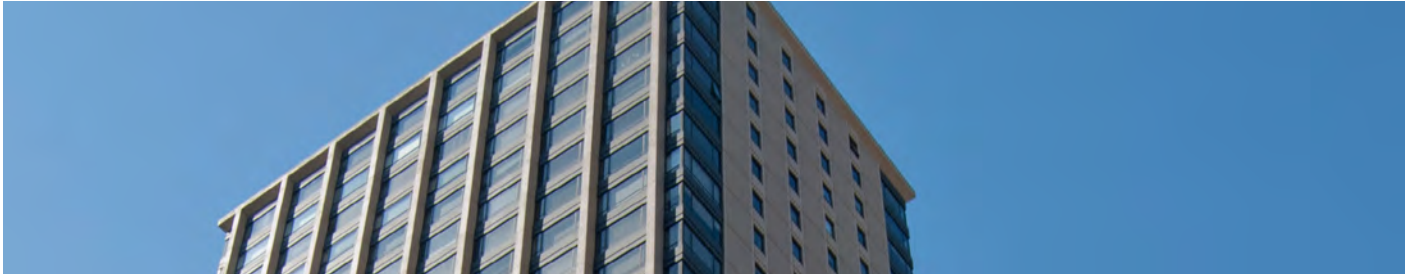
Proper designation of trade

Each laborer and mechanic shall be classified in accordance with the work classifications listed on the wage decision and the actual type of work they perform and shall be paid the appropriate wage rate and fringe benefits for the classification regardless of their level of skill. In other words, if someone is performing carpentry work on the project, they must be paid no less than the wage rate on the wage decision for carpenters even if they aren't considered by the employer to be fully trained as a carpenter. Remember, the only people who can be paid less than the rate for their craft are apprentices and trainees registered in approved programs.

Split classification

Laborers and mechanics that perform work in more than one classification may be compensated at the rate specified for each classification provided that the employer maintains time records that accurately set forth the time spent in each classification in which the work was performed. If accurate time records are not maintained, the employee shall be compensated at the highest of all wage rates for the classifications in which work was performed.





LCA RESPONSIBILITIES

State, tribal, and local contracting agencies (LCAs) that administer HUD programs agree to administer and enforce Davis-Bacon requirements as a condition for receiving HUD program assistance. LCAs have the following responsibilities:

1. Designate appropriate staff (e.g., a Contract Administrator) before the start of construction to ensure compliance with all applicable labor standards requirements and to act for and in liaison with HUD. Provide the name(s) of the staff to the appropriate HUD Field Office of Davis-Bacon and Labor Standards.
2. Establish a construction contract management system that meets the standards of 2 CFR Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.
3. Ensure that all bid documents, contracts, and subcontracts contain the applicable Davis-Bacon wage decision and Federal labor standards provisions.
4. Ensure that no contract is awarded to a contractor that is ineligible (e.g., debarred) for Federally-assisted work.
5. Conduct on-site inspections including interviews with laborers and mechanics employed on the construction project. Ensure that the applicable Davis-Bacon wage decision, DOL's Davis-Bacon poster (Form WH-1321), and additional classifications are displayed at the job site.
6. Review certified payroll reports (CPRs) and related documentation. Identify any discrepancies and/or violations. Ensure that any needed corrections are made promptly, including the payment of wage restitution as needed, and the assessment and collection of liquidated damages, as appropriate.
7. Maintain full documentation of Federal labor standards administration and enforcement activities.
8. Refer potential criminal or complex enforcement actions to HUD, in addition to CWHSSA liquidated damages assessments for O/T violations and debarment recommendations.
9. Comply with all HUD requirements concerning statutory, program, and/or other requirements.
10. Prepare Federal labor standards enforcement reports as required in DOL regulations (29 CFR Part 5, § 5.7).



LAWS AND REGULATIONS

The Davis-Bacon Act (DBA)

The DBA, enacted in 1931, applies to contracts in excess of \$2,000 for construction, alteration, and/or repair of public buildings or public works, including painting and decorating, to which the United States or the District of Columbia is a party. This type of applicability is referred to as direct Davis-Bacon Act or DBA coverage. An example of DBA coverage is when HUD contracts directly for repairs to HUD-owned properties. HUD's Office of the Chief Procurement Officer manages these types of contracts. The DBA requires that the advertised specifications for such contracts contain a provision stating that the minimum wages to be paid to various classes of laborers and mechanics must be based upon the wages found to be prevailing by the Secretary of Labor.

Most HUD construction work is not covered by the DBA since HUD does not usually contract directly for construction work. Rather, Davis-Bacon wage rates apply to HUD programs because of prevailing wage requirements expressed in HUD "Related Acts" such as the U. S. Housing Act of 1937 and the Housing and Community Development Act of 1974, as amended. The Related Acts (referred to throughout this Guide as the Davis-Bacon and Related Acts or DBRA) are discussed further in Section 5.9.

The DBA includes provisions that:

1. Require the contractor or subcontractor to pay all mechanics and laborers at least once per week;
2. Prohibit contractors or subcontractors from taking deductions or rebates from wages earned by laborers and mechanics;
3. Require the contractor or subcontractor to pay Davis-Bacon wages to all laborers and mechanics employed on the site of the work regardless of their skill level, and regardless of any contractual relationship alleged to exist between the laborers and mechanics and the contractor or subcontractor;

4. Require the contractor or subcontractor to post the scale of wages to be paid (i.e., the applicable Davis-Bacon wage decision) in a prominent and accessible place at the work site;
5. Define prevailing wages to include fringe benefits;
6. Permit the withholding of payments due to the contractor on account of wage restitution that may be found due to the laborers and mechanics;
7. Permit the payment of wage restitution from amounts withheld from contract payments;
8. Permit the termination of the contract where it is found that any laborer or mechanic is underpaid; and
9. Permit the debarment of persons or firms found to have disregarded their obligations to employees and subcontractors.

The Contract Work Hours and Safety Standards Act (CWHSSA)

The CWHSSA applies to both direct federal contracts and to federally-assisted contracts where those contracts require or involve the employment of laborers and mechanics and where federal wage standards (e.g., Davis-Bacon or HUD-determined prevailing wage rates) are applicable. CWHSSA provisions apply to all laborers and mechanics, including watchmen and guards, employed by any contractor or subcontractor. CWHSSA also applies to maintenance laborers and mechanics employed by contractors or subcontractors engaged in the operation of Public Housing Agencies (PHA), Tribally Designated Housing Entities (TDHE), and Indian Housing Agencies (IHA) developments.

CWHSSA O/T provisions do not apply to laborers and mechanics employed directly by PHAs or IHAs. However, O/T provisions generally apply to these workers under the Fair Labor Standards Act (FLSA). HUD does not have authority to enforce FLSA violations. Refer complaints of FLSA violations to DOL, Wage and Hour Division.

CWHSSA provides that all O/T hours (defined as hours worked in excess of 40 during any workweek on the CWHSSA-covered project site) must be compensated at a rate not less than one and one-half times the regular basic rate of pay. Where CWHSSA O/T provisions are applicable, compensatory time in lieu of premium pay for O/T hours is not permissible. In the event of O/T violations, the CWHSSA renders the contractor liable to the underpaid workers for wage restitution and to the United States Government for liquidated damages computed per person per day at a rate that DOL publishes annually. It is a federal criminal misdemeanor to intentionally violate CWHSSA standards.

Exemptions:

- CWHSSA O/T provisions do not apply where the federal assistance is only in the nature of a loan guarantee or insurance.
- CWHSSA O/T provisions do not apply to prime contracts of \$100,000 or less.

RESOURCE

DOL posts current fines at:

<https://www.dol.gov/whd/govcontracts/cwhssa.htm#cmp>



The Copeland Act (Anti-Kickback Act)

The Copeland Act concerns three facets of prevailing wage compliance:

1. The “anti-kickback” provision prohibits contractors and subcontractors from inducing an employee working on a covered contract to give up any part of the compensation to which he or she is entitled. Violations are a criminal offense and are punishable by a \$5,000 fine or imprisonment up to five years, or both.
2. Associated DOL regulations restrict payroll deductions to those that are permissible without DOL approval as explained at 29 CFR § 3.5; deductions that require advance DOL approval are explained at 29 CFR § 3.6.
3. The Act requires the submission of weekly CPRs accompanied by a Statement of Compliance by all contractors and subcontractors engaged in such construction, prosecution, completion, or repair. The willful falsification of a CPR or statement of compliance may subject the employer to civil or criminal prosecution under § 1001 of Title 18 and § 3729 of Title 31 of the United States Code (USC), and may also be a cause for debarment.

Exemptions:

- Copeland Act CPR requirements are applicable only where Davis-Bacon (DBA or DBRA) prevailing wage provisions are applicable.
- Copeland Act anti-kickback provisions do not apply where the only federal assistance is a loan guarantee.



The Fair Labor Standards Act (FLSA)

The FLSA governs matters such as federal minimum wage rates and O/T. These standards are generally applicable to any labor performed and may be pre-empted by other (often more stringent) federal standards such as the DBRA prevailing wage requirements and CWHSSA O/T provisions. The authority to administer and enforce FLSA provisions resides solely with DOL.

Portal-to-Portal Act (PA)

The PA applies to the DBA and prevents the commencement of any court suit for unpaid S/T wages more than two years after performance of the work (three years in the case of willful violations), where permissible under the law. However, DOL's position is that the PA does not apply to administrative actions initiated through Administrative Law Judge (ALJ) hearing procedures; thus, the PA does not preclude corrective administrative action after two (or three) years.

The PA does not apply to federally-assisted (DBRA) projects. Instead, the various State statutes of limitations apply to such projects in private actions where they are judicially determined to be permissible under the law. The Federal six-year statute of limitations applies in government enforcement actions.

McNamara-O'Hara Service Contract Act (SCA)

The SCA governs maintenance and other service work and applies

when the Federal Government or the District of Columbia contracts directly for such services and the value of the contract exceeds \$2,500. SCA coverage in HUD programs is limited because HUD infrequently enters into direct contracts for services in the administration of its programs. By way of example, however, a contract for maintenance service at an HUD-owned multifamily property would be covered by the SCA. Like DBA contracts, SCA contracts are managed under the auspices of HUD's Office of the Chief Procurement Officer. SCA enforcement authority resides solely with DOL.

Davis-Bacon Regulations

DOL has published rules and instructions concerning Davis-Bacon and other labor laws in the Code of Federal Regulations (CFR). These regulations can be found in Title 29 CFR Parts 1, 3, 5, 6, and 7. Part 1 explains how DOL establishes and publishes DBA wage determinations (also referred to as wage decisions) and provides instructions on how to use the determinations. Part 3 describes Copeland Act requirements for payroll deductions and the submission of weekly CPRs. Part 5 covers the labor standards provisions that are in contracts relating to Davis-Bacon Act wage rates and the responsibilities of contractors and contracting agencies to administer and enforce the provisions. Part 6 provides for administrative proceedings enforcing Federal labor standards on construction and service contracts. Finally, Part 7 sets parameters for practice before the Administrative Review Board. These regulations are used as the basis for administering and enforcing the laws.

DOL Regulations are available online: www.ecfr.gov/current/title-29



Construction Contract Provisions and Labor Standards Administration

Labor standards administration involves the activities that take place primarily before construction begins. Administration sets the stage for the compliance activities that occur during the construction phase. The first and sometimes most difficult step is determining whether and to what extent Davis-Bacon wage standards apply to a particular contract or project. The Factors of Labor Standards Applicability (see Appendix II-6) should be helpful. Most HUD-assisted construction work is covered by Davis-Bacon, but there are some exceptions. The best and safest approach is to first assume that Davis-Bacon requirements will be applicable whenever the contract/project involves construction work valued in excess of \$2,000, then look more closely to see if there is any reason for non-coverage. Each contract subject to Davis-Bacon labor standards requirements must contain labor standards clauses and a Davis-Bacon wage decision. These documents are normally wound into the contract specifications.

The labor standards clauses

The contract for construction is the vehicle to ensure contractor compliance and Davis-Bacon wage enforcement. Therefore, the bid specifications and/or the contract for each project subject to Davis-Bacon wage rates must contain both a Davis-Bacon wage decision and labor standards clauses. The labor standards clauses describe the responsibilities of the contractor concerning Davis-Bacon wages and obligate the contractor to comply with the Davis-Bacon wage and reporting requirements and with the O/T provisions of the CWHSSA (applicable

only when the prime contract is valued at over \$100,000).

The labor standards clauses also provide for remedies in the event of violations, including the withholding of payments due to the contractor to ensure the payment of wages or liquidated damages that may be found due, and sanctions should violations occur. These contract clauses enable the contract administrator to enforce the Federal labor standards applicable to the project. HUD has standard forms that contain contract clauses. For example, the HUD-92554M, Supplementary Conditions Of The Contract for Construction, which is issued primarily for FHA (Federal Housing Administration) multifamily housing and other construction projects administered by HUD; the HUD-4010, Federal Labor Standards Provisions, which is used for CDBG (Community Development Block Grant) and HOME (HOME Investment Partnerships Program) projects; and the HUD-5370, General Conditions for Construction Contracts (construction contracts >\$150,000) or the HUD-5370-EZ, General Contract Conditions for Small Construction/Development Contracts (construction contracts >\$2,000 but ≤\$150,000) which are used for Public and Indian Housing projects. These should be wound into the contract specifications or incorporated by specific reference in the bid/contract documents (see Labor Relations Letter 96-03).

RESOURCE

A fillable version of this form is available online at HUDClips www.hud.gov/program_offices/administration/hudclips/forms
Contact the contract administrator monitoring the project for assistance with a Project Wage Rate.



Specific Davis-Bacon Related Act (statute) for the program involved

Related Acts are program statutes that contain provisions requiring compliance with the wages that the Secretary of Labor finds to be prevailing pursuant to the Davis-Bacon Act. These are commonly referred to as the Davis-Bacon and Related Acts or DBRA.

HUD Related Acts include (but are not limited to) the:

- National Housing Act;
- U. S. Housing Act of 1937;
- Housing and Community Development Act of 1974;
- National Affordable Housing Act of 1990; and
- Native American Housing Assistance and Self-determination Act of 1996, each as amended.

Many of the labor provisions in HUD Related Acts contain applicability thresholds based upon the number of dwelling units involved. Some thresholds are based upon the amount of HUD assistance or the use of HUD funds or assistance. In addition, most HUD Related Acts contain exemptions from prevailing wage coverage for bona-fide volunteers. It is important for DBLS and LCA staff to be familiar with the statutory provisions and how these are interpreted.

The labor provisions found in current HUD Related Acts are excerpted for reference in Appendix II-1 to this Guide. Applicability factors relating to specific HUD Related Acts are in Appendix II-6.

Labor Standards Letters

This special directives series is designed to provide current and thorough guidance on Davis-Bacon issues in HUD programs. Popular topics include Davis-Bacon applicability, and prevailing wage requirements concerning self-employed laborers and mechanics. Labor Standards Letters are available online at the Davis-Bacon and Labor Standards Library: www.hud.gov/program_offices/davis_bacon_and_labor_standards/olr_lrl

HUD Guides

These Guides complement the guidance and instructions provided in HUD Handbook 1344.1, Federal Labor Standards Compliance in HUD Programs. These Guides are also available at the Davis-Bacon and Labor Standards Library.

Davis-Bacon Wage Decisions

The term “wage decision” includes the original decision and any subsequent decisions that modify, supersede, correct, or otherwise change the provisions of the original decision. The term “wage decision” is used within this Guide to mean the Davis-Bacon wage decision. The terms “wage decision” and “wage determination” are used interchangeably. A wage decision is a schedule of construction work classifications, wage rates, and fringe benefits that represent the minimum rates that must be paid to workers employed in those classifications. Wage decisions are established for defined geographic areas, usually by county



or group of counties, and four general characters of construction work.

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RESOURCE

All current Davis Bacon wage decisions can be accessed online at no cost at www.sam.gov

Character of work

There are four basic categories (or characters) of wage decisions based on the type of construction. DOL established these categories and provides details of each one in All Agency Memoranda Nos. 130 and 131. DOL provides further guidance in All Agency Memorandum 236, Prevailing Wage Resource Book, and Field Operations Handbook, Chapter 15. The four categories include:

- 1. Residential:** Residential construction includes the construction, alteration, or repair of single-family houses or apartment buildings of no more than four stories in height. This typically includes all incidental items unless there is an established area practice to the contrary.

Incidental items are elements of a project whose function is to support the principal purpose and do not change the overall character of work. Examples of incidental items include sidewalks and handrails installed to support residential or building projects. While sidewalks intrinsically constitute “highway” construction, this element considered in conjunction with a residential or building project becomes incidental to the principal purpose of the construction and is subject to the same wage decision that applies to the principal purpose.



Character of work (continued)

- 2. **Building:** Building construction generally is the construction of sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment, or supplies. This category includes buildings exceeding four stories in height that have housing units and buildings of four stories or less that do not have housing units. This category also includes incidental items such as grading, sidewalks, and utilities. Building examples include high-rise apartment buildings, nursing homes and convalescent facilities, community centers, fire stations, commercial buildings, parking garages, and dormitories.
- 3. **Highway:** Highway construction includes the construction, alteration, or repair of roads, streets, highways, alleys, parking areas, and other similar projects not incidental to the main category of construction, which is either residential or building for housing development projects.
- 4. **Heavy:** Heavy construction includes those projects that are not properly classified as “residential,” “building,” or “highway.” Some examples include antenna towers, canals, landscaping, drainage and irrigation projects, permanent erosion control, storm sewers, and storage tanks.

General wage decisions

Most Davis-Bacon wage decisions are general wage decisions. DOL usually publishes these annually and may modify or supersede them throughout the year. LCAs and HUD Labor Standard Specialists (LSS) may use general wage decisions without advance notice or approval from DOL. Most Davis-Bacon wage decisions are available as published

general wage decisions.

General wage decisions and project wage decisions may be modified from time to time to keep them current, correct errors, and for other purposes. Modifications may be limited to one or more particular work classifications and wage rates. Modifications are effective to a project if HUD or an LCA receives them, or if notice of the modification is published at www.sam.gov prior to the lock-in date. Modifications to a project wage decision expire on the same date as the original project wage decision. A modification to a general wage determination remains in effect until it is superseded by a subsequent modification, or the original general wage decision is superseded or cancelled.

Project wage decisions

If an appropriate wage decision (by location, character of work, or specific trade required) is not published in the general wage decisions, a project wage decision shall be requested from DOL. Project wage decisions are applicable only to the construction work specified on the request to DOL and listed on the front page of the wage decision. Project wage decisions are valid for 180 days from the date of original issuance by DOL. The issuance and expiration dates will be indicated on the front page of the wage decision. Like general wage decisions, project wage decisions may be modified.

A project wage decision may be applicable even though a general wage determination is published which covers the geographic location and character of work involved. For example: A project involves only roof replacement on a 4-story apartment building and the only classification needed for the entire contract is a roofer.



Project wage decisions (continued)

A general wage decision is published for residential construction in the county in which the project is located; however, the general wage decision does not include a roofer classification and wage rate. In this case, the general wage decision is not relevant to the roof replacement and a project wage decision may be requested from DOL.

RESOURCE

General wage decisions and modifications are available at www.sam.gov

This is the only online location endorsed by DOL. Project wage decisions must be requested on a case by case basis from DOL.

Project wage decisions, as needed

The LCA or LSS shall submit a completed SF-308, Request for Wage Determination And Response to Request, to the DOL National Office, allowing 30 days for receipt of the project wage decision from DOL.

Selecting the correct wage decision

The responsible contracting officer (also referred to as the contract administrator) selects and assigns wage decisions to specific contracts or projects. For HUD-administered projects (e.g., FHA-insured multifamily development), the responsible contracting officer is the LSS. In addition, the LSS provides technical support and oversight to LCAs

administering HUD programs in selecting and assigning appropriate wage decisions. Determining wage decisions is dependent upon the geographic location and the character of work (Residential, Building, Highway, and/or Heavy) assigned to the project.

A request for additional classification and wage rates may be made only after contract award. The request must originate with the contractor/ employer and must be submitted by the LCA to DOL.

MORE INFO

Conformances (additional classifications)

At times, the wage decision will not contain some of the work classification and wage rates that are needed for the construction work. In these cases, send a form SF 1444 to DOL at whd-cbaconformance_incoming@dol.gov



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RESOURCE

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A request for additional classification and wage rates may be made only after contract award. The request must originate with the contractor/ employer and must be submitted by the LCA to DOL.

Verify contractor eligibility

Once the LCA has selected the contractor to whom they wish to award the contract, the LCA must verify that the contractor is not ineligible (e.g., debarred) from participation in Federal programs. Only the eligibility of the prime contractor needs to be verified. The U.S. General Services Administration (GSA) maintains a list of ineligible contractors, which can be accessed online at www.sam.gov.

An additional classification and wage rate will be approved by DOL where:

1. The requested work classification is used in the area of the project by the construction industry;
2. The work that will be performed is not performed by a work classification already contained in the wage decision;
3. The proposed wage rate bears a reasonable relationship to the wage rates on the wage decision; and
4. The workers that will be employed in the requested work classification (if known) or the workers' representatives (if any) agree with the proposed wage rate.

Provide contractor training

The LCA must make certain that the contractor understands its responsibilities for Davis-Bacon compliance: The principal contractor is responsible for the full compliance of all employers (the contractor, subcontractors, and any lower-tier subcontractors) with the labor standards provisions applicable to the project. LCAs may also wish to provide formal training separate from the contracting process for contractors that are interested in performing work on HUD-assisted contracts and want to learn more about what is involved.





CONTRACTOR RESPONSIBILITIES

See Section 4 in the Contractor Addendum.

CONTRACT ADMINISTRATOR RESPONSIBILITIES

See Section 5 in the Contractor Addendum.

LCA FLEXIBILITY FOR LABOR STANDARDS RESPONSIBILITIES

While some aspects of labor standards administration are inflexible, such as which wage decision is applicable to a specific project, the following aspects are not. For these, HUD leaves the preference of how to achieve end results with the LCA.

LCAs may hold preconstruction conferences for labor standards purposes.

HUD acknowledges that there are many good reasons to hold a preconstruction conference (PCC), and these conferences are strongly encouraged in order to have the opportunity to discuss topics such as construction inspections, progress and contractor payment requirements, Section 3 employment and training, and other issues particular to the project. However, HUD has determined that the time and resources used to conduct and document PCCs for labor standards purposes do not yield measurably better results.

Many contractors have prior Davis-Bacon contract experience and have demonstrated successful performance. These contractors do not require the repetitive basic training that is provided at most PCCs. Contractors new to Davis-Bacon projects that understand the basic requirements and choose not to comply will likely not be persuaded to fully comply just because they attended a PCC.

LCAs may prepare Project Wage Rate Sheets

Some general wage decisions cover large areas (e.g., several counties or different characters of construction) and may contain wage rates that do not apply to the contract/project to which the wage decision applies. Such wage decisions can be difficult to decipher and confusing to contractors and subcontractors, and to the workers reviewing the wage decision to determine whether they are being paid correctly. For ease of reference for the LSS/LCA, the prime contractor and any subcontractors, and the workers, the LSS/LCA may prepare a form HUD-4720, Project Wage Rate Sheet, which should reflect the most commonly used work classifications and wage rates as contained in the wage decision applicable to the project. The Project Wage Rate Sheet should be prepared only after the wage decision has been “locked-in” by contract award or start of construction, as applicable. The Project Wage Rate Sheet does not replace the wage decision; it is only provided as a convenience. If there is a conflict between the Project Wage Rate Sheet and the wage decision, the wage decision prevails.

LCAs can prepare a Project Wage Rate Sheet for contracts using the onscreen fillable versions in either the HUD Forms or DBLS websites. HUD DBLS staff is available to provide assistance to LCAs in preparing Project Wage Rate Sheets. HUD strongly recommends incorporation of the full wage decision text into bid solicitations and contracts, either in hard copy or by specific reference.

LCAs may develop their own labor standards file system

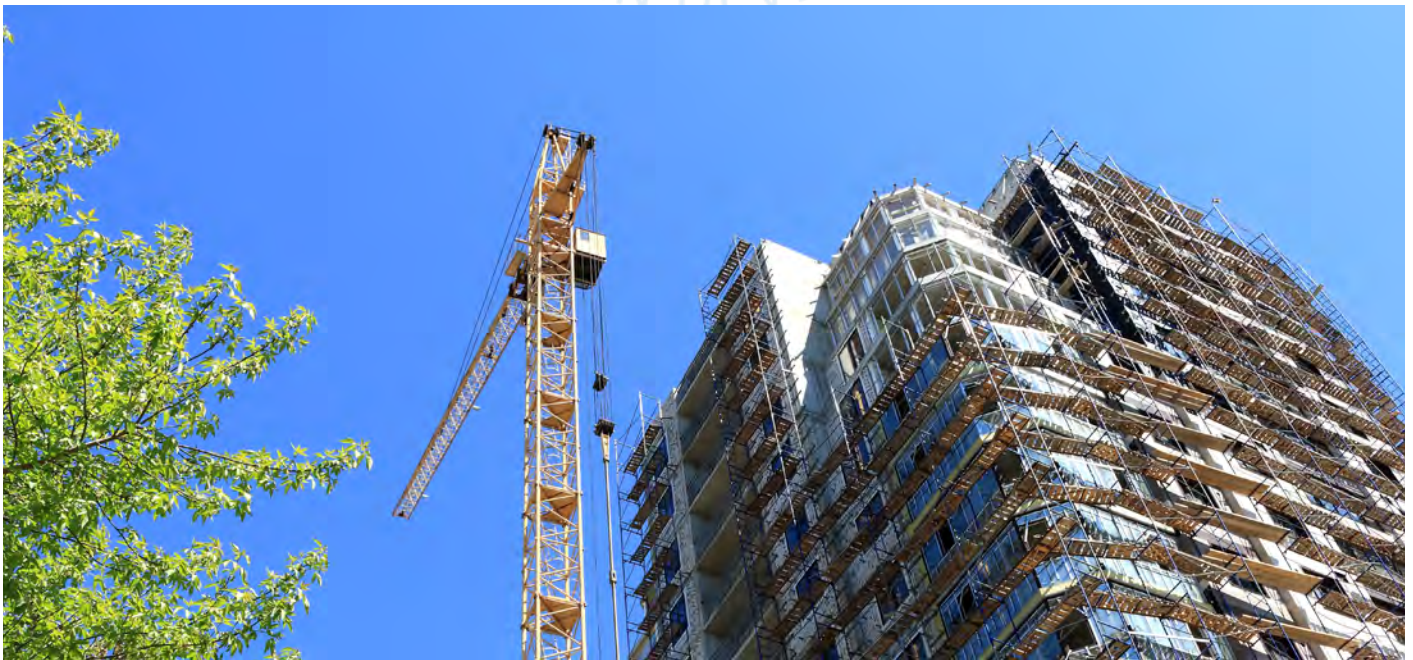
HUD believes that LCAs can best determine how to maintain their files provided that certain minimum requirements are met. The minimum requirements include compliance with DOL regulations that certified payrolls and basic records relating to the payrolls be preserved for no less than three years after completion of the project and the resolution of any enforcement actions that may carry over after completion. In addition, the files must be maintained in such a way that the LCA can utilize them to demonstrate its own compliance with its labor standards administration and enforcement responsibilities. For example, the LCA must, at HUD’s request, demonstrate how it has documented that the eligibility of the prime contractor was verified for each contract.

LCAs may target on-site interviews with laborers and mechanics

HUD is interested in using on-site interviews as a proactive enforcement tool rather than to meet a “representative sampling” quota. Instead of conducting interviews randomly for the sake of assembling a sample, LCAs are encouraged to target interviews to projects or groups of workers where violations are suspected or alleged. In this way, on-site interviews can be used to support a specific ongoing enforcement action. HUD realizes that this approach may mean that fewer on-site interviews may be conducted randomly; HUD considers targeting a far more efficient and effective means of utilizing on-site interview resources.

LCAS may limit payroll reviews to spot-checks and HUD-11 (Employee Interview Form) comparison

The goal: to detect falsification. HUD believes that serious violations involving underpaid workers and significant wage restitution may be overlooked because the contract administrator is overtasked with HUD-mandated payroll review minutiae. HUD recognizes that it is not possible to conduct payroll reviews in 100% of cases; therefore, it is not possible to identify and correct every discrepancy and underpayment. It is also the case that the violations disclosed behind falsified payrolls are much more egregious (both in terms of affected workers and the amount of underpayment) than violations that appear on the face of the payroll records. Accordingly, HUD has prioritized payroll reviews so that the objective is to detect falsification, and so that enforcement activities will yield the greatest impact. HUD has developed guidance on how to detect falsification through spot-checks and HUD-11 interview comparison. (See Willful Violations and Falsification Applicability in Appendix III-1.)



LCAS may limit payroll reviews to spot-checks and HUD-11 (Employee Interview Form) comparison (continued)

Routine payroll review results may be communicated to the prime contractor by telephone and documented with a record in the file. Many times, the types of deficiencies that come to the attention of the contract administrator can be handled more efficiently and just as effectively with good informal communication (e.g., a telephone call, email, etc.) with the employer/prime contractor rather than with formal letters. Examples of the types of issues that could easily be addressed informally—assuming the cooperation of both sides—include a missing payroll report or missing apprenticeship certificates, requests for employee authorizations for deductions, small underpayments that appear on the face of the payroll, and similar matters. With the prime contractor’s cooperation, these matters can be disposed of quickly with a telephone call and a brief note to the contract file documenting the call. If the employer/prime contractor does not respond appropriately to this type of communication, it may be necessary to resort to more formal means.

RESOURCE

The Department of Housing and Urban Development (HUD) one stop forms resource page.

www.hud.gov/program_offices/administration/hudclips/forms





FEDERAL LABOR STANDARDS COMPLIANCE CHECKLIST FOR DAVIS-BACON COVERED PROJECTS

RESOURCE

See LCA DBRA Checklist online at the link below:

https://www.hud.gov/program_offices/davis_bacon_and_labor_standards/OLRLibrary

REVIEWING PAYROLLS

See Section 7 in the Contractor Addendum.

REPORTING PAYROLLS

See Section 8 in the Contractor Addendum.

PAYROLL COMPLIANCE REVIEWS AND CORRECTIONS

Compliance reviews

The contract administrator or other inspector may visit the project site and interview some of the workers concerning their employment on the project. DOL may also independently conduct its own reviews (see 10.2.2 in the Contractor Addendum). In addition, the contract administrator will periodically review payrolls and related submissions, comparing the interview information to the payrolls, to ensure that the labor standards requirements have been met. Contractors will be notified by

the contract administrator if these reviews find any discrepancies or errors, and will be given instructions about what steps must be taken to correct any problems.

On-site interviews

Every employer (contractor, subcontractor, etc.) must make their employees available for interview at the job site with the contract administrator or other agency representative (or HUD or DOL representative). The interviews are confidential and the employees will be asked about the number of hours they work, the kind of work they perform, and their rate of pay. Every effort will be made to ensure that these interviews cause as little disruption as possible to the ongoing work. The interviewer will record the interview information, usually on a form HUD-11, Record of Employee Interview, and forward the interviews to the contract administrator. Completed HUD-11s must be compared to the corresponding contractor and subcontractor certified payrolls to test and verify the accuracy of the payroll information.

RESOURCE

HUD 11 forms are available online in English and in Spanish in a fillable format via the HUD Forms website (www.hud.gov/program_offices/administration/hudclips/forms) and at the DBLS website (www.hud.gov/program_offices/davis_bacon_and_labor_standards/olrform).

Project payroll reviews

The contract administrator will compare the information on the interview forms to the corresponding payrolls to ensure that the workers are properly listed on the payrolls for the days and hours worked on the job site, work classification, and rate of pay. The contract administrator will also review the payroll submissions to make certain that the payrolls are complete and signed, that employees are paid no less than the wage rate for the work classification shown, that apprentice and trainee certifications are submitted (where needed), that employee or other authorizations for other deductions are submitted (where needed), etc. Contract administrators should be particularly alert for indications of payroll falsification—misinformation on payrolls to conceal underpayments. Falsification on payrolls indicates that a contractor or subcontractor is aware of its obligations, is knowingly underpaying its employees, and is attempting to avoid detection of the violations. See Appendix III-1 for an explanation of willful violations and falsification indicators.

Typical payroll errors and required corrections

Contract administrators must ensure the full correction of all discrepancies disclosed during compliance monitoring conducted by the LCA, HUD, or DOL. This includes the collection of documentation to demonstrate that corrective measures have been successfully completed. They must:

1. **Examine and resolve probable violations and complaints of underpayment.** Contract administrators must explore probable violations—particularly those involving falsification of payrolls and complaints alleging underpayments. In addition to the HUD-11, Record of Employee Interview, HUD has developed a questionnaire form (HUD-4730) and a complaint intake form (HUD-4731) for HUD and LCA use. The forms are available in onscreen fillable formats at the HUD forms website and via the DBLS website;
2. **Refer complex issues and/or falsification cases to HUD or DOL.** Some issues may be more complex than LCAs are able to address. HUD encourages LCAs to consult with the LSS for their area to secure appropriate guidance and support. HUD has decided, in consultation with DOL, that it will refer to DOL cases involving falsification of payrolls or related documents for DOL investigation. HUD strongly suggests that LCAs employ this strategy for cases involving falsification;
3. **Take steps to ensure the full resolution of any monetary liability that has or may be imposed for labor standards reasons.** Contract administrators must take prompt action to ensure that funds will be available to satisfy any labor standards liability that may be imposed. Actions include the withholding of contract payments due to the contractor and requiring funding for an escrow account to guarantee the satisfaction of any restitution and/or liquidated damages assessment that may be pending at contract closeout;



Typical payroll errors and required corrections (continued)

4. **Recommend debarment against repeat violators.** HUD has implemented a zero tolerance policy against contractors who are repeat violators of Davis-Bacon labor standards. The first time an employer is found in violation, the employer is required to pay full restitution to all affected workers and to pay any CWHSSA liquidated damages (for O/T violations) that may be assessed. In addition, the employer must provide written assurance of future compliance. If the employer promptly completes these corrective actions, HUD will not object if the LCA does not recommend debarment against the employer unless there are extenuating circumstances that warrant debarment. If the employer is found in violation again, the LCA must require full correction of any underpayments and payment of CWHSSA liquidated damages assessed. A debarment recommendation made by the LCA against the employer is expected; and
5. **Prepare and submit enforcement reports.** In accordance with DOL regulations (29 CFR Part 5, § 5.7), the contract administrator must prepare and submit to HUD an enforcement report in any case where an employer (contractor or subcontractor) has underpaid its employees by \$1,000 or more or where there is reason to believe that the violations are aggravated or willful, and prepare and submit to HUD semi-annual enforcement reports concerning all Davis-Bacon labor standards administration and enforcement activities involving all HUD-assisted programs. Enforcement reports cover wage underpayments by contractors and subcontractors.

Note that enforcement reports concern only wage violations associated with projects or contracts subject to the labor standards provisions of the DBRA.

Employer-specific enforcement reports

These enforcement reports are used for three general purposes. First, to report to the Secretary of Labor on Davis-Bacon enforcement actions successfully completed in the field by all federal, state, and local agencies. Second, to refer to the Wage and Hour Administrator investigative findings that are in dispute (e.g., where the employer contests findings of underpayment made against it and requests a hearing to appeal the findings). Third, to make recommendations for debarment and other sanctions and for recommendations concerning liquidated damages computed for CWHSSA O/T violations. (See Labor Relations Letter LR-92-02 for additional guidance concerning employer-based enforcement reports.)

6. **Semi-Annual Enforcement Reports.** HUD is required to furnish to DOL semi-annual reports (SARs) concerning the volume of DBRA-covered activities and the compliance and enforcement of DBRA labor standards provisions in HUD programs. The reports are due to DOL by April 30 and October 31 of each calendar year and cover the periods of October 1 through March 31 and April 1 through September 30, respectively. (See DOL regulations at 29 CFR § 5.7(b) and All Agency Memorandum 189.)



Typical payroll errors and required corrections (continued)

To prepare the SAR, HQLS (Headquarters Office Davis-Bacon and Labor Standards) collects data from the LSIS (Labor Standards Information System) and from each RLSO (Regional Labor Standards Officer), and then submits the report to DOL, which accepts electronic submittals of the semi-annual reports in lieu of paper copies at SemiAnnualReport@DOL.gov. HUD collects the reports from its client agencies and compiles a comprehensive report to DOL covering all HUD-assisted Davis-Bacon construction activity. The report may be completed onscreen, saved, and attached to an email message for submission purposes.

RESOURCE

A copy of the Semi Annual Report form (HUD 4710) and instructions (HUD4710i) for LCAs and are available at HUDClips (www.hud.gov/program_offices/administration/hudclips/forms) and at the Davis Bacon and Labor Standards Forms page (www.hud.gov/program_offices/davis_bacon_and_labor_standards/olrform).

MORE INFO

States may report directly to DOL, as the state chooses. PHAs, IHAs, and TDHEs should send data for Davis Bacon projects only; data relating to HUD determined maintenance wage rate projects or projects subject to Tribally determined wage rates (for construction or maintenance work) should not be included.



Common errors

The following paragraphs describe common payroll errors and the corrective steps that must be taken.

Inadequate payroll information

If an alternate payroll format used by an employer (such as some computer payrolls) is inadequate (e.g., does not contain all the necessary information that would be on the optional form WH-347), the employer will be asked to resubmit the payrolls on an acceptable form.

Missing identification numbers

If the first payroll on which an employee appears does not contain the employee's individually identifying number, the employer will be asked to supply the missing information. This information can be reported on the next payroll submitted by the employer if the employer is still working on the project. Otherwise, the employer will be asked to submit a correction certified payroll.

Incomplete payrolls

If the information on the payroll is not complete, for example, if work classifications or rates of pay are missing, the employer will be asked to send a correction certified payroll.

Classifications

If the payrolls show work classifications that do not appear on the wage decision, the employer will be asked to reclassify the employees in accordance with the wage decision, or the employer may request an ad-

ditional classification and wage rate (see Section 9 in the Contractor Addendum). If reclassification results in underpayment (i.e., the wage rate reported on the payroll is less than the rate required for the new classification), the employer will be asked to pay wage restitution to all affected reclassified employees (see Section 10 in the Contractor Addendum for instructions about wage restitution).

Wage rates

If the wage rates on the payroll are less than the wage rates on the wage decision for the work classifications reported, the employer will be asked to pay wage restitution to all affected employees.

Indications of falsification on payrolls

The greatest threat to construction workers entitled to a statutorily-mandated prevailing wage for their craft is from employers who know what is required, choose not to pay the required prevailing wage rates, and falsify CPRs to conceal the underpayments. Such willful violators see the workers' underpayment as their own gain and engage in deception to increase this gain. In addition, willful violators that successfully escape detection and are not required to pay prevailing wages will continue to bid on Davis-Bacon contracts until their violations are disclosed and administrative sanctions such as debarment are imposed.

Falsification indicators

HUD has prepared a list and explanation of four common falsification indicators that are detectable during payroll "spot-checks."



Information reported on payrolls that indicate falsification suggests willful, much more serious violations in terms of the amount of back wages that may be due and the number of employees affected.

Such cases most often warrant investigation, which can include on-site interviews, mailing questionnaires to employees, taking written statements or complaints, and other methods to gather and assess the facts of the case. See Appendix III-1 for an explanation of willful violations and falsification indicators.

Apprentices and trainees

If a copy of the employee’s registration or the approved program ratio and wage schedule are not submitted with the first payroll on which an apprentice or trainee appears, the employer will be asked to submit a copy of each apprentice’s or trainee’s registration and/or the approved program ratio and wage schedule. If the ratio of apprentices or trainees to journeymen on the payroll is greater than the ratio in the approved program, the employer will be asked to pay wage restitution to any excess apprentices or trainees. Also, any apprentice or trainee that is not registered in an approved program must receive the journeyman’s wage rate for the classification of work they performed.

Overtime

If the employees did not receive at least time and one-half for any O/T hours worked on the project, the following will occur:

1. If the project is subject to CWHSSA O/T requirements, the employer will be asked to pay wage restitution for all O/T hours worked on the project.

The employer may also be liable to the United States for liquidated damages computed at \$26 per day per violation, and indexed to increase annually. Or,

2. If the project is not subject to CWHSSA, the employer will be notified of the possible FLSA O/T violations.

Also, the contract administrator may refer the matter to DOL for further review.

Computations

If the payroll computations (hours worked times rate of pay) or extensions (deductions, net pay) show frequent errors, the employer will be asked to take greater care. Wage restitution may be required if underpayments resulted from the errors.

Deductions

If there are any “Other” deductions that are not identified, or if employee authorization isn’t provided, or if there is any unusual (very high, or large number) deduction activity, the employer will be asked to identify the deductions, provide employee authorization, or explain unusual deductions, as necessary.

HUD does not enforce or attempt to provide advice on employer obligations to make deductions from employee earnings for taxes or Social Security. However, HUD may refer to the IRS or other responsible agency copies of CPRs that show wages paid in gross amounts (i.e., without tax deduction) for its review and appropriate action.



Fringe benefits

If the wage decision contains fringe benefits but the payroll does not indicate how fringe benefits were paid (neither 4(a) nor 4(b) is marked on the Statement of Compliance), the employer may be asked to submit correction certified payrolls and will be required to pay wage restitution if underpayments occurred.

However, if the basic hourly rates for the employees are at least as much as the total wage rate on the wage decision (basic hourly rate plus the fringe benefit rate), no correction is necessary.

Signature

If the payroll Statement of Compliance is not signed or is missing, the employer will be asked to submit a signed Statement of Compliance for each payroll affected. If the Statement of Compliance is signed by a person who is not a principal of the firm and that person has not been authorized by principal to sign, the employer will be asked to provide an authorization or to resubmit the Statement(s) of Compliance bearing the signature of a principal or other authorized signatory.

On-site interview comparisons

If the comparison of on-site interviews to the payrolls indicates any discrepancies (e.g., the employee does not appear on the payroll for the date of the interview), the employer will be asked to submit a correction CPR.

Correction certified payroll

Any and all changes to data on a submitted payroll report must be re-

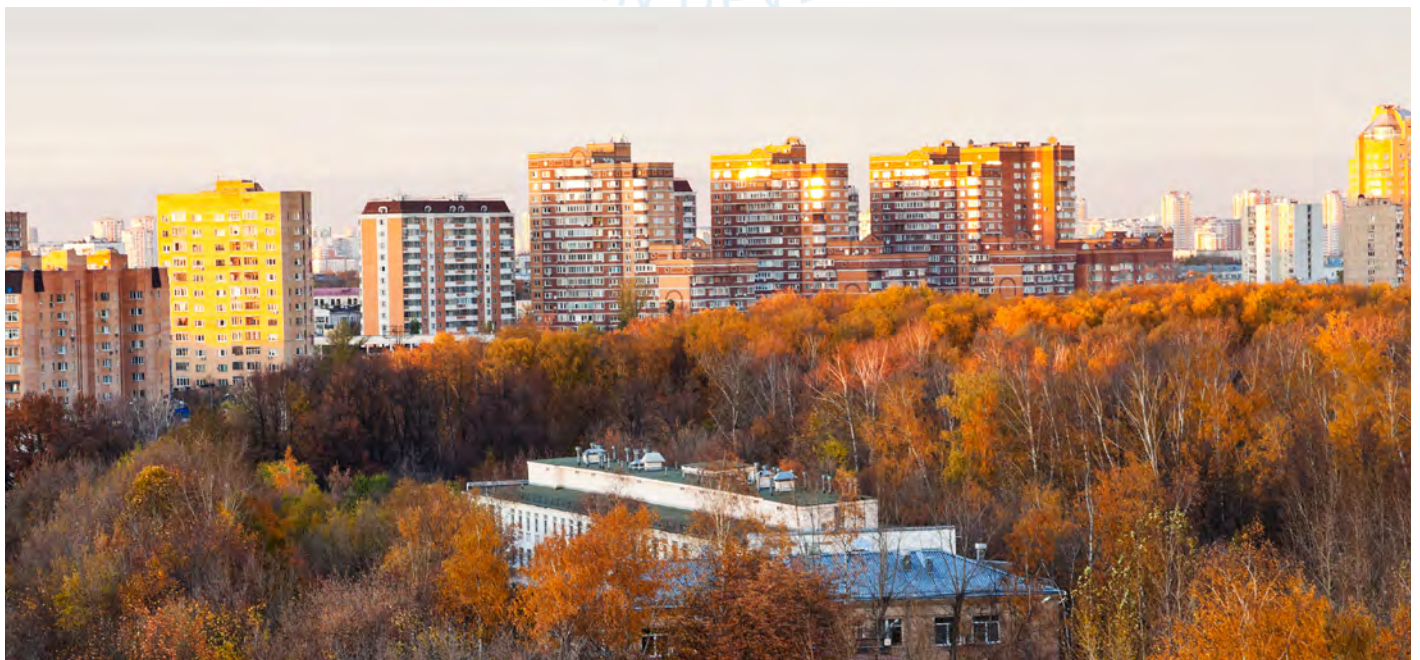
ported on a certified correction payroll. In no case will a payroll report be returned to the prime contractor or employer for revision.

Restitution for underpayment of wages

Where underpayments of wages have occurred, the employer will be required to pay wage restitution to the affected employees. Wage restitution must be paid promptly in the full amounts due, less permissible and authorized deductions. All wages paid to laborers and mechanics for work performed on the project, including wage restitution, must be reported on a CPR. If a violation of labor standards requirements results in an underpayment of wages to employees, the LCA should notify the prime contractor to either make wage restitution or direct its subcontractor to do so. Where restitution amounts are in excess of \$10 per worker, the employer must attest to wage restitution paid on a correction certified payroll.

Notification to the Employer/Prime contractor

The contract administrator will notify the employer and/or prime contractor in writing of any underpayments that are found during payroll or other reviews. The contract administrator will describe the underpayments and provide instructions for computing and documenting the restitution to be paid. The employer/prime contractor is allowed 30 days to correct the underpayments. Note that the prime contractor is responsible to the contract administrator for ensuring that restitution is paid. If the employer is a subcontractor, the subcontractor will usually make the computations and restitution payments and furnish the required documentation through the prime contractor.



Notification to the Employer/Prime contractor (continued)

MORE INFO

The contract administrator may communicate directly with a subcontractor when the underpayments are plainly evident and the subcontractor is cooperative. It is best to work with the prime contractor when the issues are complex, when there are significant underpayments, and/or the subcontractor is not cooperative. In all cases, the subcontractor must ensure that the prime contractor receives a copy of the required documentation.

Computing wage restitution

Wage restitution is simply the difference between the wage rate paid to each affected employee and the wage rate required on the wage decision for all hours worked where underpayments occurred. The difference in the wage rates is called the adjustment rate. The adjustment rate times the number of hours involved equals the gross amount of restitution due. Alternatively, wage restitution may be computed by calculating the total amount of Davis-Bacon wages earned and subtracting the total amount of wages paid. The difference is the amount of back wages due.

Total hours worked times (x) adjustment rate (DB rate – rate paid)
= wage restitution due; or

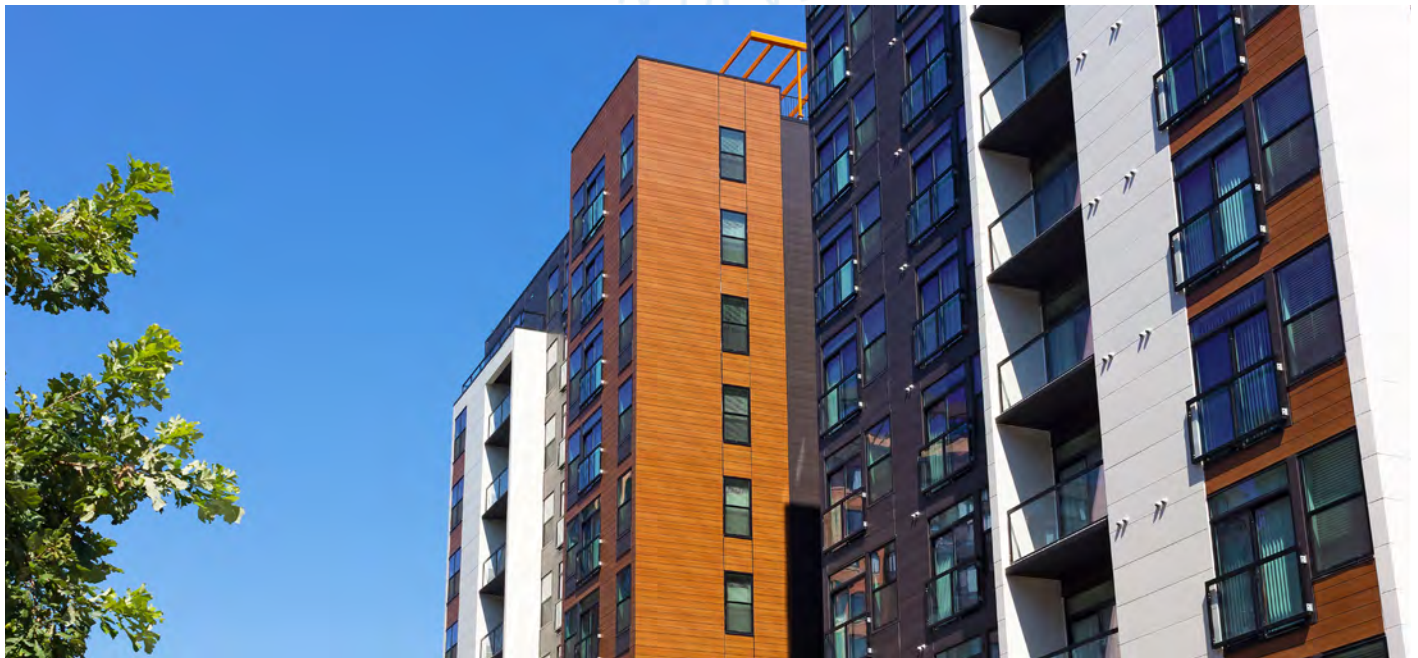
Total wages earned minus (-) total wages paid = wage restitution due.

Correction certified payrolls

The employer will be required to report the restitution paid on a correction certified payroll. The correction payroll will reflect the period for which restitution is due (e.g., Payrolls #1 through #6, or a beginning date and ending date). The correction payroll will list each employee to whom restitution is due and their work classification, the total number of work hours involved (daily hours are usually not applicable for wage restitution), the adjustment wage rate (the difference between the required wage rate and the wage rate paid), the gross amount of restitution due, deductions, and the net amount actually paid. A properly signed Statement of Compliance must accompany the correction payroll. HUD no longer requires the signature of the employee on the correction payroll to evidence employee receipt of restitution payment. In addition, except in the most extraordinary cases, HUD no longer requires employers to submit copies of restitution checks (certified, cashier's, canceled, or other) or employee-signed receipts or waivers.

MORE INFO

In the course of basic enforcement and corrections, the employer need only submit a correction CPR to evidence wage restitution paid. Other documentation such as copies of checks, copies of cancelled checks, receipts signed by the employees, employee signatures on the correction CPR, etc., is not required.



Review of correction CPR

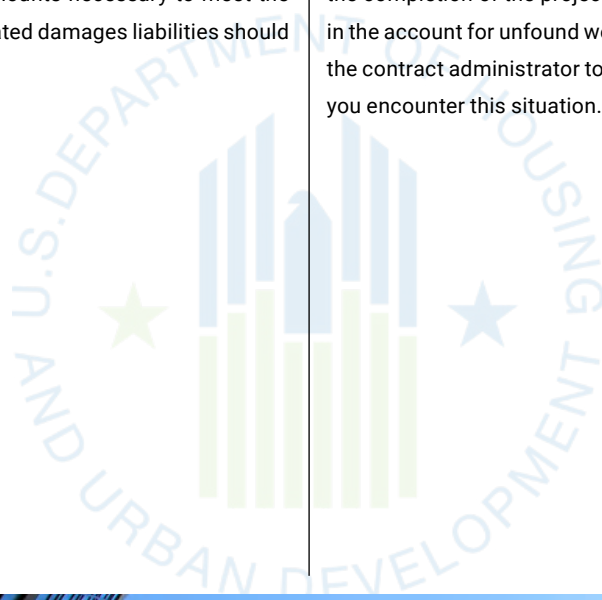
The contract administrator will review the correction certified payroll to ensure that full restitution was paid. The prime contractor shall be notified in writing of any discrepancies and will be required to make additional payments, if needed, documented on a correction certified payroll within 30 days.

Withholding payments due to the contractor

If wage violations are not corrected within 30 days after notification to the prime contractor, the LCA may cause the withholding of payments due to the contractor in the amount needed to ensure the full payment of restitution and, if applicable, liquidated damages computed for CWHSSA O/T violations. Only the amounts necessary to meet the potential back wage and CWHSSA liquidated damages liabilities should be withheld.

Unfound workers

Sometimes, wage restitution cannot be paid to an affected employee because, for example, the employee has moved and cannot be located. After wage restitution has been paid to all the workers who could be located, the employer must submit a list of any workers who could not be found and paid (i.e., unfound workers), providing their name, Social Security number, last known address, and the gross amount due. In such cases, at the end of the project the prime contractor will be required to place in a deposit or labor standards escrow account an amount equal to the total gross amount of restitution that could not be paid because the employee(s) could not be located. The contract administrator will continue attempts to locate the unfound workers for three years after the completion of the project. After three years, any amount remaining in the account for unfound workers will be credited and/or forwarded by the contract administrator to HUD. Contact the HUD LSS for your area if you encounter this situation.





ADDITIONAL WORK CLASSIFICATION AND WAGE RATES

See Section 9 in the Contractor Addendum.

SANCTIONS AND RESTITUTION

See Section 9 in the Contractor Addendum.

APPENDIX

- Appendix I-1 Reorganization Plan No. 14 of 1950
- Appendix I-2 Delegations of Authority
- Appendix I-3 Labor Standards Core Work Activities
- Appendix II-1 HUD Davis-Bacon Related Acts
- Appendix II-2 Davis-Bacon Act Copeland Anti-Kickback Act
- Appendix II-3 Contract Work Hours and Safety Standards Act
- Appendix II-4 Federal Labor Standards Coverage in Major HUD Programs
- Appendix II-5 Factors of Labor Standards Applicability
- Appendix III-1 HUD's Willful Violations and Falsification Applicability
- Appendix III-2 Sample Deposit Schedule
- Appendix III-3 Sample Tax Withholding Notice
- Appendix III-4 Unfound Worker Schedule
- Appendix III-5 Refund of Deposit Memorandum Template
- Appendix IV-1 Acronyms and Symbols

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HUD-4010 FEDERAL LABOR STANDARDS PROVISIONS

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A. APPLICABILITY

The Project or Program to which the construction work covered by this Contract pertains is being assisted by the United States of America, and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

1. Minimum wages and fringe benefits

- i. All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in 29 CFR 5.5(d) and (e), the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(v) of these contract clauses; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under 29 CFR 5.5(a)(1)(iii)) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

ii. Frequently recurring classifications

- A. In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to 29 CFR 5.5(a)(1)(iii), provided that:
 1. The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;
 2. The classification is used in the area by the construction industry; and
 3. The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.
- B. The Administrator will establish wage rates for such classifications in accordance with 29 CFR 5.5(a)(1)(iii)(A)(3). Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

iii. Conformance

- A. The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be

classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

1. The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 2. The classification is used in the area by the construction industry; and
 3. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- B. The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.
- C. If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- D. In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- E. The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under 29 CFR 5.5 (a)(1)(iii)(C) and (D). The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to 29 CFR 5.5 (a)(1)(iii)(C) or (D) must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

iv. Fringe benefits not expressed as an hourly rate

Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

v. Unfunded plans

If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in 29 CFR 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

- vi. Interest** In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding

i. Withholding requirements

The U. S. Department of Housing and Urban Development may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in 29 CFR 5.5(a) for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in 29 CFR 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work (or otherwise working in construction or development of the project under a development statute) all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in 29 CFR 5.5(a)(3)(iv), HUD may on its own initiative and after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

ii. Priority to withheld funds

The Department has priority to funds withheld or to be withheld in accordance with 29 CFR 5.5(a)(2)(i) or (b)(3)(i), or both, over claims to those funds by:

- A. A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- B. A contracting agency for its procurement costs;
- C. A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- D. A contractor's assignee(s);
- E. A contractor's successor(s); or
- F. A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

3. Records and certified payrolls

i. Basic record requirements

- A. **Length of record retention.** All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.
- B. **Information required** Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.
- C. **Additional records relating to fringe benefits.** Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(v) that the wages of any laborer or mechanic include the amount of any

costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

D. Additional records relating to apprenticeship Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

ii. Certified payroll requirements

A. Frequency and method of submission The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to HUD if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the certified payrolls to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to HUD. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system

B. Information required The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i)(B), except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.*, the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the sponsoring government agency (or the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records).

C. Statement of Compliance Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

1. That the certified payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information and basic records are being maintained under 29 CFR 5.5 (a)(3)(i), and such information and records are correct and complete;
2. That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly

from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

3. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.
 - D. **Use of Optional Form WH-347** The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the “Statement of Compliance” required by 29 CFR 5.5(a)(3)(ii)(C).
 - E. **Signature** The signature by the contractor, subcontractor, or the contractor’s or subcontractor’s agent must be an original handwritten signature or a legally valid electronic signature.
 - F. **Falsification** The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.
 - G. **Length of certified payroll retention** The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.
- iii. **Contracts, subcontracts, and related documents** The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.
- iv **Required disclosures and access**
- A. **Required record disclosures and access to workers** The contractor or subcontractor must make the records required under 29 CFR 5.5(a)(3)(i)–(iii), and any other documents that HUD or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by 29 CFR 5.1, available for inspection, copying, or transcription by authorized representatives of HUD or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.
 - B. **Sanctions for non-compliance with records and worker access requirements** If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to 29 CFR 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.
 - C. **Required information disclosures** Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to HUD if the agency is a party to

the contract, or to the Wage and Hour Division of the Department of Labor. If the Federal agency is not such a party to the contract, the contractor, subcontractor, or both, must, upon request, provide the full Social Security number and last known address, telephone number, and email address of each covered worker to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to HUD, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. **Apprentices and equal employment opportunity**

i. **Apprentices**

- A. **Rate of pay** Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- B. **Fringe benefits** Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.
- C. **Apprenticeship ratio** The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to 29 CFR 5.5(a)(4)(i)(D). Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in 29 CFR 5.5(a)(4)(i)(A), must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.
- D. **Reciprocity of ratios and wage rates** Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

- ii **Equal employment opportunity** The use of apprentices and journeyworkers under this part must be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

5 **Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6 Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (11), along with the applicable wage determination(s) and such other clauses or contract modifications as the U.S. Department of Housing and Urban Development may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate.

7 Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8 Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9 Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

i. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or 29 CFR 5.12(a).

ii. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or 29 CFR 5.12(a).

iii. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11 Anti-retaliation It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

i. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, or 29 CFR parts 1, 3, or 5;

ii. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5;

iii. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5; or

iv. Informing any other person about their rights under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5.

B. Contract Work Hours and Safety Standards Act (CWHSSA)

The Agency Head must cause or require the contracting officer to insert the following clauses set forth in 29 CFR 5.5(b)(1), (2), (3), (4), and (5) in full, or (for contracts covered by the Federal Acquisition Regulation) by reference, in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses must

be inserted in addition to the clauses required by 29 CFR 5.5(a) or 4.6. As used in this paragraph, the terms “laborers and mechanics” include watchpersons and guards.

- 1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- 2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in 29 CFR 5.5(b)(1) the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in 29 CFR 5.5(b)(1), in the sum of \$31 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in 29 CFR 5.5(b)(1).
- 3. Withholding for unpaid wages and liquidated damages**
 - i. Withholding process** The U.S Department of Housing and Urban Development or the recipient of Federal assistance may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in 29 CFR 5.5(b) on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in 29 CFR 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.
 - ii Priority to withheld funds** The Department has priority to funds withheld or to be withheld in accordance with 29 CFR 5.5(a)(2)(i) or (b)(3)(i), or both, over claims to those funds by:
 - A.** A contractor’s surety(ies), including without limitation performance bond sureties and payment bond sureties;
 - B.** A contracting agency for its procurement costs;
 - C.** A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor’s bankruptcy estate;
 - D.** A contractor’s assignee(s);
 - E.** A contractor’s successor(s); or
 - F.** A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.
- 4. Subcontracts.** The contractor or subcontractor must insert in any subcontracts the clauses set forth in 29 CFR 5.5(b)(1) through (5) and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in 29 CFR 5.5(b)(1) through (5). In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss,

due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

- 5 Anti-retaliation** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:
- i. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in 29 CFR part 5;
 - ii. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or 29 CFR part 5;
 - iii. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or 29 CFR part 5; or
 - iv. Informing any other person about their rights under CWHSSA or 29 CFR part 5.
- C. CWHSSA required records clause** In addition to the clauses contained in 29 CFR 5.5(b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other laws referenced by 29 CFR 5.1, the Agency Head must cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor must maintain regular payrolls and other basic records during the course of the work and must preserve them for a period of 3 years after all the work on the prime contract is completed for all laborers and mechanics, including guards and watchpersons, working on the contract. Such records must contain the name; last known address, telephone number, and email address; and social security number of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid; daily and weekly number of hours actually worked; deductions made and actual wages paid. Further, the Agency Head must cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph must be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview workers during working hours on the job.
- D. Incorporation of contract clauses and wage determinations by reference** Although agencies are required to insert the contract clauses set forth in this section, along with appropriate wage determinations, in full into covered contracts, and contractors and subcontractors are required to insert them in any lower-tier subcontracts, the incorporation by reference of the required contract clauses and appropriate wage determinations will be given the same force and effect as if they were inserted in full text.
- E. Incorporation by operation of law** The contract clauses set forth in this section (or their equivalent under the Federal Acquisition Regulation), along with the correct wage determinations, will be considered to be a part of every prime contract required by the applicable statutes referenced by 29 CFR 5.1 to include such clauses, and will be effective by operation of law, whether or not they are included or incorporated by reference into such contract, unless the Administrator grants a variance, tolerance, or exemption from the application of this paragraph. Where the clauses and applicable wage determinations are effective by operation of law under this paragraph, the prime contractor must be compensated for any resulting increase in wages in accordance with applicable law.

F. HEALTH AND SAFETY

The provisions of this paragraph (F) are applicable where the amount of the prime contract exceeds **\$100,000**.

1. No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his or her health and safety, as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.
2. The contractor shall comply with all regulations issued by the Secretary of Labor pursuant to 29 CFR Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96), 40 U.S.C. § 3701 et seq.
3. The contractor shall include the provisions of this paragraph in every subcontract, so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

**APPENDIX II PART 200
CONTRACT PROVISIONS FOR NON-
FEDERAL ENTITY CONTRACTS UNDER
FEDERAL AWARDS**

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Title 2 – Grants and Agreements

Subtitle A – Office of Management and Budget Guidance for Grants and Agreements

Chapter II – Office of Management and Budget Guidance

Part 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards

Source: 85 FR 49543, Aug. 13, 2020, unless otherwise noted.

Source: 85 FR 49539, Aug. 13, 2020, unless otherwise noted.

Authority: 31 U.S.C. 503

Source: 78 FR 78608, Dec. 26, 2013, unless otherwise noted.

Appendix II to Part 200—Contract Provisions for Non-Federal Entity Contracts Under Federal Awards

In addition to other provisions required by the Federal agency or non-Federal entity, all contracts made by the non-Federal entity under the Federal award must contain provisions covering the following, as applicable.

- (A) Contracts for more than the simplified acquisition threshold, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.
- (B) All contracts in excess of \$10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be effected and the basis for settlement.
- (C) Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of “federally assisted construction contract” in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.”
- (D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction”). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland “Anti-Kickback” Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part

3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

- (E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.
- (F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR § 401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.
- (G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and subgrants of amounts in excess of \$150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).
- (H) Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.
- (I) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any

other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

(J) See § 200.323.

(K) See § 200.216.

(L) See § 200.322.

[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75888, Dec. 19, 2014; 85 FR 49577, Aug. 13, 2020]

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TECHNICAL SPECIFICATIONS

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CITY OF ELIZABETH CITY
DETAILED SPECIFICATIONS
EARTHWORK

01. GENERAL:

This section shall include all excavation, shoring, dewatering, filling, backfilling, and compacting as indicated on the drawings, and specified herein, and directed by the Engineer. Provisions of this section shall apply to all pipe work within the City's limits, within streets or public rights-of-way, and any pipe work outside the City's limits that will be added to the City's water, sewer or storm sewer system.

02. CHARACTER OF EXCAVATION MATERIAL:

Since soils may vary widely within the project area, the Contractor shall satisfy himself as to the nature of material that will be encountered during the course of the project. All excavation shall be considered unclassified regardless of the material encountered.

03. EXISTING UNDERGROUND UTILITIES:

The Contractor shall be responsible for locating all underground utilities and structures along the pipelines to be installed in order to avoid conflict and costly repair of such utilities. Test pits designated on the plans shall be performed before ordering any materials. Any discrepancies between the plans and the results of the test pits should immediately be reported to the engineer.

Movement of construction machinery and equipment over pipes and utilities during construction shall be at the Contractor's risk. Perform work adjacent to non-owner utilities as indicated in accordance with procedures outlined by utility company. For work immediately adjacent to or for excavations exposing a utility or other buried obstruction, excavate by excavations exposing a utility or other buried obstruction, excavate by hand. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured. Support uncovered lines or other existing work affected by the contract excavation until approval for backfill is granted by the Engineer. Report damage to utility lines or subsurface construction immediately to the Engineer.

04. CONFLICTS:

Where it is impossible to avoid conflict with existing utilities, the new construction shall be performed in a manner that will cause the least amount of disturbance to the existing facility. Any damage to existing facilities shall be repaired immediately according to the directions of the owner of such facilities.

05. TEMPORARY DRAINAGE:

Pumping equipment shall be provided and employed to promptly remove any water that accumulates in the excavation. The area of excavation shall be limited to that which can properly be dewatered by the equipment in use. The excavation shall be maintained in a dry condition while construction is in progress. Surface water shall be diverted from the excavation by sloping the ground away from the ditch.

- A. Disposal of Water: The water from the excavation shall be disposed of in such a manner that the natural drainage of the area shall not be disturbed. All gutters, drains, sewers, and culverts shall be kept clean for surface drainage.

06. SHORING:

The Contractor will provide shoring when the excavation will endanger existing structures, utilities, pavements and banks, and when necessary to protect workmen. The shoring shall be constructed of adequate size members and the arrangement of members shall be suitable to withstand the earth pressure expected. Shoring, sheeting, and bracing that is utilized above the invert of the pipe shall be removed carefully during the backfilling process in order to prevent caving that might displace the pipe from the correct line and grade. When and where directed by the Engineer, sheeting may be left in place in the backfill with adequate braces to provide lateral support. Cost for shoring shall be considered incidental to the project and included in the unit per foot price for pipe.

07. EXCAVATION (GENERAL):

Trenches shall be excavated by open cut to the line and grade given by the Engineer. Vertical cuts shall be used whenever possible, but in unstable soils, trenches may be sloped from the top of the excavation to a point 3.0 feet above the top of the pipe with the width of the trench from this depth to the bottom of the ditch governed by A below. The bottom 4" of the excavation shall be excavated by hand. Bell holes shall be excavated by hand to insure that the pipe is properly supported for its entire length.

- A. Trench Width: The maximum width of the trench shall be 24" plus the outside diameter of the pipe. This width shall also apply to sloped trenches for the last 3' above the top of the proposed pipe.
- B. Excavated Material: Material excavated from the ditch shall be placed (whenever possible) in piles along the side of the trench. When it is necessary to stockpile excavated material, it shall be the Contractor's responsibility to secure the stockpile areas. No excavated material shall be placed on private property without the consent of the Owner.
- C. All excavation shall be considered unclassified regardless of nature of material encountered.
- D. Whenever the bottom of the trench is unstable and does not afford a good foundation, the Contractor shall remove such part as may be necessary and replace with suitable material from the surface to make a good foundation without extra compensation.

- E. Under exceptional conditions where ground water and unstable soil are such that it is not possible to obtain a suitable foundation with material on the trench bank, the Engineer will determine the method to be followed and the Contractor will be compensated for extra foundation material delivered on the trench. On account of the difficulty in determining extra labor involved, no extra compensation will be allowed for placing it, but it will be held to be included in the unit price bid per linear foot of pipe.
- F. Excavation for manholes and other appurtenances shall be sufficiently large to leave at least 12" clear between their outer surfaces and in the line of the excavation or supporting timber.
- G. Any unauthorized excavation below the pipe or structure shall be filled with sand, gravel, or concrete at the expense of the Contractor.
- H. Where sheathing or bracing is used, no extra compensation will be allowed, except where the Engineer directs that it be left in place, in which case the Contractor will be allowed \$300 per thousand board feet measure for material so left.
- I. The Contractor shall include in the unit price for laying pipe all necessary pumping and well pointing.

08. BACKFILLING:

Backfilling shall progress as rapidly as the pipe laying and testing permits. The trench shall be backfilled with approved material free from large clods or stones. The initial backfill shall be carefully placed on both sides of the pipe at the same time and thoroughly tamped around the barrel of the pipe until enough material has been placed to provide 2' of cover above the top of the pipe. The remainder of the backfill shall be placed in well compacted, one-foot layers using approved mechanical tampers. In no case shall the backfill material be placed in unequal layers on one side of the pipe that might cause pipe displacement. In existing streets, roads or alleys, the backfill shall be compacted to a density of 98% as determined by ASTM A-695 using approved mechanical tampers in 6" layers to the top of the trench. The top elevation of the trench shall be graded to the original grade that existed before excavation. In no case shall material such as old pavement, curbs, bricks or blocks be placed in the backfill.

- A. Dewatering: Dewatering, when required, shall be continued during construction including the pipe laying and the backfilling process. Adequate equipment shall be used and maintained by the Contractor to insure a dry trench.
- B. Rock Cut: If rock is encountered in excavation, rock shall be removed to a depth of 8" below the bottom of the pipe. This 8" shall be as per bedding detail or NCDOT #57 Washed Stone.
- C. Muck: Muck may be used in the backfill after at least 2.0 feet of approved material has been placed above the bell of the pipe. Muck shall not be used in the backfill in any street, road, alley, or parking area. When it is encountered, the Contractor shall haul approved backfill material in.
- D. Sheeting: When sheeting is removed from the backfill, all cavities shall be properly filled.

09. COMPACTION:

- A. Use hand-operated, plate-type, vibratory, or other suitable hand tampers in areas not accessible to larger rollers or compactors. Avoid damaging pipes and protective pipe coatings. Compact material in accordance with the following unless otherwise specified. If necessary, alter, change, or modify selected equipment or compaction methods to meet specified compaction requirements. Compact initial backfill material surrounding pipes, cables, conduits, or ducts, to 95 percent of ASTM D698 maximum density. Where bedding and backfill are the same material, compact initial backfill to the density 95 percent ASTM D698. Under areas to be seeded or sodded, compact succeeding layers of final backfill to 90 percent of ASTM D 698 maximum density.
- B. For utilities under highway rights-of-way, structures and pavements, compact succeeding layers of final backfill in 6-inch maximum loose lifts at 98 percent of ASTM D698 maximum density. If a vibratory roller is used for compaction of final backfill, the lift thickness can be increased to 9 inches. Compact all backfill surrounding pipes, ducts, conduits, and other structures to 95 percent of ASTM D698 maximum density except compact the top 12 inches of subgrade to 98 percent of ASTM D698 maximum density. Backfill to permit the rolling and compacting of the completed excavation with the adjoining material, providing the specified density necessary to enable paving of the area immediately after backfilling has been completed.

10. EXCESS MATERIAL:

Excess material and material that is suitable for backfill shall be disposed of at sites obtained by the Contractor.

11. BORROW:

When the material excavated is not sufficient to meet the requirements for fill material, borrow shall be obtained by the Contractor. Borrow material shall be approved by the Engineer prior to placement. Borrow shall be paid for under this bid item for Select Material.

12. CUTTING PAVEMENT, CURBS, AND GUTTERS:

Make cuts with neat, parallel, straight lines one foot wider than trench width on each side of trenches and one foot beyond each edge of pits. When the saw cut is within 6 feet of an existing joint, remove pavement to the existing joint.

13. FINISH OPERATIONS

- A. Grading: Finish to grades that existed prior to construction. Re-grade ditches to provide positive drainage. Provide sod or topsoil in areas to be seeded or sodded as indicated and in accordance with requirements specified in Section 8, "Seeding". Grade areas to drain water away from structures and to provide suitable surfaces for mowing

machines. Grade existing grades that are to remain but have been distributed by the Contractor's operations.

- B. Spreading Topsoil: Clear areas to receive topsoil for the finished surface of materials that would interfere with planting and maintenance operations. Scarify subgrade to a depth of 2 inches. Do not place topsoil when the subgrade is frozen, extremely wet or dry, or in other conditions detrimental to seeding, planting, or grading. Comply with the requirements of Section 8, "Seeding". Spread topsoil to a uniform depth of 4 inches over the designated areas.
- C. Protection of Services: Protect newly graded areas from traffic, erosion, and settlements that may occur and as required in the section Temporary Environmental Controls. Repair or re-establish damaged grades, elevations, or slopes.
- D. Pavement Repair: Repair pavement, curbs, and gutters. Do not repair pavement until trench or pit has been backfilled and compacted as specified herein. Provide a temporary road surface of crushed stone over backfilled portion until permanent pavement is repaired. Remove and dispose of temporary road surface material when permanent pavement is placed. As a minimum, maintain one-way traffic on roads and streets crossed by trenches.

14. METHOD OF MEASUREMENT AND PAYMENT:

Payment for this section shall not be made directly, but shall be included in the unit price as defined in the Bid Form Definitions.

WATER MAINS AND APPURTENANCES

DETAILED SPECIFICATIONS

PIPE FOR WATER MAINS

01. SCOPE:

This section shall include the furnishing of all types of pipe and other incidentals required for the construction of a complete water system as shown on the drawings and as specified herein.

Unless otherwise noted, the materials listed below are acceptable to the Owner for use in water distribution systems. Should the Contractor desire to use other materials not listed in these specifications, written permission must be obtained from the Owner's Engineer.

All material shall be free from defects impairing strength and durability and be of the best commercial quality for the purposes specified. It shall have structural properties sufficient to safely sustain or withstand strains and stresses to which it is normally subjected and be true to detail.

02. SUBMITTALS:

The Contractor shall submit to the Engineer six (6) copies of all submittal data for review and/or approval. Submittals shall include at a minimum: (1) the manufacturer's name, (2) type of material, (3) ASTM, ANSI, AWWA or other quality standard and (4) pressure class. If the materials do not meet the quality standards specified, the submittals will be rejected and other materials submitted as specified. The Contractor must obtain approval of all pipe materials prior to commencing construction.

The Contractors shall submit to the Engineer two (2) copies of a certificate of inspection from the pipe manufacturer that the pipe supplied has been inspected at the plant and meets the requirements of these specifications.

03. PIPE DELIVERY, STORAGE AND HANDLING:

Units shall be delivered, handled, and maintained in a manner to avoid damage to the pipe. The pipe shall be stored in an open area on high, well-drained land not subject to flooding, mud or other means of contamination.

04. DUCTILE IRON PIPE:

A. General:

Ductile iron pipe shall be centrifugally cast in accordance with ANSI A21.51 (AWWA C151), latest revision. Ductile iron shall meet the following minimum physical grade requirements:

Ultimate Strength	=	60,000 psi
Yield Strength	=	42,000 psi
Minimum Elongation	=	10%

B. Pipe Thickness: Pipe design conditions shall be as follows:

- 1.) Working pressure of 180 psi plus 100 psi water hammer allowance.
- 2.) External load of earth load of at least 3' cover plus a live truck superload (ASHTO H-20).

Pipe shall be installed in a Type 2 trench. Pressure class thickness shall be calculated in accordance with ANSI A21.50 (AWWA C150), latest revision, considering the above conditions and a safety factor of two. The standard service allowance and casting tolerance shall be added to the net thickness. Pipe up to and including 12" diameter shall be a pressure class 350. All larger pipe shall be a pressure class 300.

C. Joints:

- 1) Slip-Type: Pipe joints are to be slip-type single gasket bell and plain end or, where noted on the drawings, restrained joints in accordance with ANSI A21.11, AWWA C111, latest revision. No solvent weld will be permitted on any size pipe.
- 2) Flange Pipe: All flange pipe shall be of ductile iron pipe and ductile iron flanges manufactured per ANSI A21.15, AWWA C115, latest revision, and shall be minimum Class 53. Flanges shall be cast or screwed on by the pipe manufacturer only. Welding of flanges to the body of the pipe in lieu of methods outlined in ANSI A21.15 will not be acceptable. Flanges shall be standard Class 125 unless they are noted on plans as "F&D 250". F&D 25" flanges shall have a raised face and be faced and drilled to match Class 250 flanges shown in ANSI B16.1, latest revision.
- 3) Mechanical Joints: ANSI Specification A21.11 (AWWA C-111), latest revision, for three inch pipe and larger, and CIPRA Specification 3-54 and 4-54 for two inch pipe. Bolted mechanical joints shall be used where specifically called for on the plans or in the Schedule of Bid Items. No push-on fitting will be allowed. The use of compact fittings 3" – 16" conforming to ANSI 21.153 (AWWA C153) will be accepted. Concrete thrust blocks shall be provided at all fittings as detailed on the drawings.

D. Pipe Lining:

Cement mortar lining shall conform with ANSI A21.5, AWWA C104, latest revision and shall be sealed with a bituminous coating.

E. Exterior Coating:

The pipe shall have an outside pipe coating of bituminous material in accordance with AWWA C151, latest revision. The final coat shall be continuous and smooth being neither brittle when subjected to low temperatures nor sticky when exposed to hot sun. The coating shall be strongly adherent to the pipe at all temperatures.

F. Length and Weight:

Pipe shall be furnished in 20' or 18' nominal lengths. Weights and length tolerances shall be within those specified by ANSI A21.51, AWWA C151, and latest revisions.

G. Marking:

The net weight, pressure class or nominal thickness, sampling period and manufacturer shall be marked on each pipe. Pipe shall also be marked "D.I." or "Ductile".

05. THICKWALL PVC PIPE:

Thickwall PVC pipe shall conform with AWWA C-900, latest revision for polyvinyl chloride pressure pipe sizes 4 inch through 12 inch (and AWWA C-905 for diameters > 12"). Class 150, DR 18 pipe as called for on the plans or scheduled bid items shall be furnished. Pipe shall be furnished in cast iron pipe equivalent outside diameters with rubber-gasketed separate couplings or push-on joints. Pipe and couplings shall not fail when subjected to the following tests; (1) sustained pressure (2) burst pressure (3) flattening and extrusion quality. Tests shall be conducted as outlined in AWWA C-900. Each length of PVC pipe shall pass a hydrostatic integrity test at the factory 4 times the pressure class of the pipe for 5 seconds.

Pipe shall be furnished in 20 ft. laying lengths. Random lengths shall be a minimum of 10 feet long and shall comprise no more than 15 percent of the length of the piping system. Pipe shall be furnished in factory packaged units, with each joint plainly marked with the manufacturer's name, pressure class, size, etc.

06. WROUGHT PIPING:

Wrought steel pipe shall conform to ASTM A-53. Wrought iron pipe shall conform to ASTM A-72. All wrought piping shall be standard strength Schedule 40 and shall be galvanized inside and out.

07. PIPE INSTALLATION:

Pipe shall be installed in accordance with the manufacture's recommendations and as specified within the Contract Drawings and Water Mains and Appurtenances Construction Methods Specifications herein. Disinfection and pressure testing shall meet the requirements in Special Provisions and within the Contract Water Mains and Appurtenances Construction Methods Specifications.

08. METHOD OF MEASUREMENT:

Pipe shall be measured from the bell or connection at the beginning to the bell or connection at the end, per linear foot, complete in place and accepted, including the furnishing of all labor, tools, materials, and equipment necessary for trenching, laying, jointing, testing, sterilizing, backfilling, and all other necessary incidentals.

09. PAYMENT:

Payment shall be made at the contract unit price on items measured as described above.

WATER MAINS AND APPURTENANCES

VALVES AND FIRE HYDRANTS FOR WATER DISTRIBUTION

01. SCOPE:

This section shall include the furnishing of all types of valves and fire hydrants and all other incidentals required for the construction of a complete water system as shown on the drawings and as specified herein. Unless otherwise noted, the materials listed below are acceptable to the Owner for use in water distribution systems. Should the Contractor desire to use other materials not listed in these specifications, written permission must be obtained from the Owner's Engineer.

All material shall be free from defects impairing strength and durability and be of the best commercial quality for the purposes specified. It shall have structural properties sufficient to safely sustain or withstand strains and stresses to which it is normally subjected and be true to detail.

Valves supplied shall be of the designations and description indicated on the plans or described herein.

02. SUBMITTALS:

The Contractor shall submit to the Engineer six (6) copies of all submittal data for review and/or approval. Submittals shall include at a minimum: (1) The manufacturer's name, (2) type of material, (3) ASTM, ANSI, AWWA or other quality standard, and (4) pressure class. If the materials do not meet the quality standards specified, the submittals will be rejected and other materials submitted as specified. The Contractor must obtain approval of all valves and fire hydrants prior to commencing construction.

03. DELIVERY, STORAGE AND HANDLING OF VALVES AND HYDRANTS:

Units shall be delivered, handled and maintained in a manner to avoid damage to the valves. The materials shall be stored in an open area on high, well drained land not subject to flooding, mud or other means of contamination.

04. GATE VALVES:

Gate valves shall conform with AWWA C-509, latest revision. All valves shall be of iron body, bronze mounted, resilient seat type. Gate valves shall be Mueller, Clow, American Flow Control or approved equal. See WAT-01 for more information.

Valves for buried use shall be NRS with 2 inch square operating nut. Valves for aboveground use shall be OS&Y design with handwheel. Valves shall be manufactured with "O" Ring stem seals.

Valves 16" and larger shall have a by-pass to equalize pressure on both sides of the valve to facilitate opening. All valves 24" and larger shall be equipped with gearing and asbestos packing.

Valve ends shall be of the size and type required for connections to the type service line used, i.e. valves with AC pipe bells shall not be adapted to PVC pipe. Standard connections shall be as follows:

Ductile Iron Pipe	Bolted Mechanical Joint
PVC Pipe -	Bolted Mechanical Joint
D.I. Hydrant Leg -	Bolted Mechanical Joint

Pressure ratings for the valves shall be as follows:

<u>SIZE</u>	<u>WORKING PRESSURE</u>	<u>HYDROSTATIC TEST PRESSURE (SHELL)</u>
2"-12"	200 psi	400 psi
14"-24"	150 psi	300 psi

05. BUTTERFLY VALVES:

Butterfly valves shall conform with AWWA C-504, latest revision. All valves for buried service shall have cast iron bodies with integrally cast mechanical joint ends conforming with AWWA C-111, latest revision. Valves for aboveground use shall be short bodied with flanges conforming with ANSI B16.1, latest revision.

The valve discs shall be designed to rotate 90 degrees from full open to tight shut position and shall have adjustable mechanical stops to govern the rotation of the disc. The valve shall have Buna-N or Buna-S valve seats with bronze or stainless steel seating rings. The stuffing boxes shall be integrally cast with the valve body. The shaft bearings shall be of the self-lubricating sleeve type with thrust bearings to keep the valve disc centered.

Butterfly valves shall be pressure class 200 unless otherwise noted on the plan or scheduled in the bid items.

06. SWING CHECK VALVES:

A. Valves Size 2 Inch to 12 Inch:

Swing check valves shall conform with AWWA C-508 latest revisions. Small swing check valves shall have iron bodies with NPT ends. The swing disc shall be internally

weighted or spring loaded and constructed of composition or bronze with rubber seats. Valves shall be rated at 175 Lb. service water pressure or 200 Lb. WOG.

Valves for use in aboveground installations shall be flanged without side spring and lever or when positioned horizontally weight and lever may be used. Valves for underground service shall have mechanical joint ends with an internally weighted swing disc.

07. ALTITUDE VALVE:

The altitude valve shall be single acting type. The altitude valve shall be hydraulic pilot controlled. The internal design of the altitude valve can be either differential all bronze piston or diaphragm type. Both types shall be single seated with a replaceable resilient seat that assures drop tight closure. The main valve will be provided with an adjustable closing speed control. The valve shall be sized as shown on the plans and be glove pattern, flanged to meet ANSI Class 125 and have a minimum pressure rating of 250 psi.

08. VALVE BOXES:

Valve boxes shall be of close-grained grey cast iron. The valve boxes shall be the two-piece screw type and the cover or cap shall have cast on the upper surface in raised letter the word "Water." Valve boxes shall be painted with a coat of protective bituminous paint before being shipped from the factory. See WAT-01 detail for more information.

09. FIRE HYDRANTS:

Fire hydrants shall conform with AWWA C-502, latest revision and the following design standards. See also WAT-02 detail.

- A. Fire hydrants shall be of the compression type, with a 4½" valve opening designed to close against line pressure.
- B. Hydrants shall have a minimum of 36" bury and shall stand approximately 30" above surface elevation.
- C. Hydrants shall be furnished with a sealed oil or grease reservoir located in the bonnet, so that all threaded and bearing surfaces are automatically lubricated. Teflon washers shall be used for ease of operation.
- D. Hydrants shall be furnished with a breakaway feature that will break cleanly upon impact. This shall consist of a two part breakable safety flange.
- E. The seat ring shall be bronze and be threaded into a bronze drain ring located between the lower barrel and shoe.

- F. All hydrants will be cast marked on the outside such that visible identification can be made as to type and design.
- G. Hose and pumper nozzles shall be threaded or leaded-in nozzles with caps and chains supplied.
- H. Operating nut shall be 1½” pent. and shall open counter-clockwise.
- I. Fire Hydrant shall be equipped with a pumper nozzle nominal thread O.D. of 5.375”
- J. Fire Hydrant shall be equipped with a hose nozzle nominal thread O.D. of 3.062”

Fire hydrants shall be American Flow Control or approved equal.

All hydrants shall receive two (2) exterior shop coats of fire hydrant red paint as specified by AWWA C-502. In addition, one finish exterior coat of fire engine red paint shall be applied after construction operations are complete.

The paint used shall comply with the following schedule:

MANUFACTURER	SHOP PRIMER	FINISH COAT
Tnemec	37-77	Tnemec-Coat
Koppers	622	Glamortex
Pratt and Lambert	40.90	Vitalite Gloss

Steel and iron surfaces shall be prepared in conformance with SSPC requirements SP1-63 and SP2-63. The surface shall be tool cleaned, lightly sanded and spot primed before application of final field coat.

10. TAPPING SLEEVES:

Fully Gasketed Wrap Around Tapping Sleeve: These sleeves must consist of the following:

- A. Body: 18-8 stainless steel for total corrosion control.
- B. Bolts and Nuts: 18-8 stainless steel NC threads.
- C. Gasket: Gridded virgin GPR compounded for water service. ASTM D2000-80M 4AA607. Full gasket gives 360° pipe coverage. The outlet gasket is Buna-N.
- D. Flange: 18-8 stainless steel flange with recess to accept standard tapping sleeves.
- E. Testing Plug: Water Works Brass 3/4" with standard square head.

F. See also WAT-06 detail.

11. INSTALLATION:

Valves and hydrants shall be installed in accordance with the manufacturer's recommendations, Contract Drawings and as specified in the Special Provisions and within the Contract Water Mains and Appurtenances Construction Methods Specifications of these specifications. Disinfection and pressure testing shall meet the requirements in the Special Provisions and within the Contract Water Mains and Appurtenances Construction Methods Specifications.

12. METHOD OF MEASUREMENT:

A. Valves:

Valves will be counted by unit, complete in place and accepted, including valve boxes set to grade.

B. Hydrants:

Hydrants shall be measured by unit, complete in place and accepted. A hydrant unit shall consist of: (1) Hydrant (depth of bury as shown on plans); (2) varying length D.I. hydrant leg; (3) 2³/₄" threaded tie rods from tee to hydrant or other restrained methods. ~~Valves and fittings for hydrant branches shall be measured separately as described herein.~~

13. PAYMENT:

Payment shall be made at the contract unit price on items as measured as described above and per the bid form.

WATER MAINS AND APPURTENANCES

FITTINGS AND COUPLINGS FOR WATER DISTRIBUTION

01. SCOPE:

This section shall include the furnishing of all types of fittings and couplings and all other incidentals required for the construction of a complete water system as shown on the drawings and as specified herein. Unless otherwise noted, the materials listed below are acceptable to the Owner for use in water distribution systems. Should the Contractor desire to use other materials not listed in these specifications, written permission must be obtained from the Owner's Engineer.

All material shall be free from defects impairing strength and durability and be of the best commercial quality for the purposes specified. It shall have structural properties sufficient to safely sustain or withstand strains and stresses to which it is normally subjected and be true to detail.

Valves supplied shall be of the designation and description indicated on the plans or described herein.

02. SUBMITTALS:

The Contractor shall submit to the Engineer six (6) copies of all submittal data for review and/or approval. Submittals shall include at a minimum: (1) The manufacturer's name, (2) type of material, (3) ASTM, ANSI, AWWA or other quality standard, and (4) pressure class. If the materials do not meet the quality standards specified, the submittals will be rejected and other materials submitted as specified. The Contractor must obtain approval of all fittings and couplings prior to commencing construction.

03. DELIVERY, STORAGE AND HANDLING OF FITTINGS AND COUPLINGS:

Units shall be delivered, handled and maintained in a manner to avoid damage to the fittings. The material shall be stored in an open area on high, well drained land not subject to flooding, mud or other means of contamination.

04. DUCTILE IRON FITTINGS:

Ductile iron fittings shall conform with ANSI A 21.10 (AWWA C-110 or C-153), latest revision with the exception of the manufacturer's design dimensions and thickness. Fittings shall have a working pressure rating of 350 psi for fittings, 12 inch and under and 250 psi for fittings over 12 inch.

Ductile iron shall conform with ASTM A-536, latest revision, Grade 70- 50-05.

- A. Thickness Design: Nominal thickness of the fittings shall be equal to Class 54 ductile iron pipe as specified in ANSI A 21.51 (AWWA C-151).
- B. Lining: Fittings shall have a cement mortar lining and seal coating conforming with ANSI A 21.4 (AWWA C-104), latest revision.
- C. Exterior Coating: Fittings shall have an outside coating of bituminous material in accordance with the manufacturer's specifications. The final coat shall be continuous and smooth being neither brittle when subjected to low temperatures nor sticky when exposed to hot sun. The coating shall be strongly adherent to the pipe at all temperatures.
- D. Joints: Fittings shall have mechanical or flanged joints as specified herein.
 - 1) Mechanical Joint: ANSI Specification A 21.11 (AWWA C-111), latest revision, for three inch pipe and larger. Bolted mechanical joint fittings shall be used with ductile iron pipe, PVC pipe, for all hydrant tees, and where specifically called for on the plans or in the Schedule of Bid Items.
 - 2) Push-on Joints: Single gasket push-on type joints shall conform with ANSI A 21.11 (AWWA C-111), latest revision. Push-on joint fittings may be used on PVC pipe or where mechanical joints are not specifically called for on the plans or specified above.
 - 3) Flanged Joint: Flanged fittings shall be constructed of ductile iron with flanges drilled and faced per ANSI B 16.1 for both 125 Lb. or 250 Lb. working pressure.

05. WROUGHT IRON OR STEEL FITTINGS:

Wrought fittings shall conform with Federal Specification WW-P-521 d, Type 11, latest revision, and be hot dipped galvanized inside and out.

06. PVC FITTINGS:

PVC fittings are not acceptable for water mains three (3) inches or greater. Fittings for PVC pipe less than three (3) inches shall be solvent weld schedule 40 PVC.

07. COUPLINGS:

Couplings may be used where applicable for completion of the work. Couplings supplied shall conform to the following:

- A. Compression Sleeve Coupling: Units shall be Dresser style 38, Smith-Blair No. 431 or equal.
- B. Victaulic Couplings: Units shall be Victaulic Co., style 31, 41, or 44 or equal.

- C. Gruvagrip Couplings: Units shall be Gustin-Bacon Division of Certainteed, Series 100 or equal.
- D. Flanged Adaptors: Units shall be Dresser style 128, Smith-Blair No. 913 or equal.

08. METHOD OF MEASUREMENT:

Fittings and couplings are deemed incidental and shall be included with the length of pipe.

09. PAYMENT:

Payment shall be made at the contract unit price on items measured as described above and per the Bid Item Definitions.

WATER MAINS AND APPURTENANCES

3/4 INCH TO 2 INCH SERVICES FOR WATER DISTRIBUTION AND 3/4 INCH TO 8 INCH WATER METERS

01. SCOPE:

This section shall include the furnishing of all materials and all other incidentals required for the installation of a complete water service connection as shown on the detail drawings and as specified herein. Unless otherwise noted, the materials listed below are acceptable to the Owner for use in water services. Should the Contractor desire to use other materials not listed in these specifications, written permission must be obtained from the Owner's Engineer.

All material shall be free from defects impairing strength and durability and be of the best commercial quality for the purposes specified. It shall have structural properties sufficient to safely sustain or withstand strains or stresses to which it is normally subjected and be true to detail.

Materials supplied shall be of the designations and description indicated on the plans or described herein. See WAT-04 detail for more information.

Owner shall review the Elizabeth City Impact Fee schedule and Tap Fee schedule for fees associated with water connections.

02. SUBMITTALS:

The Contractor shall submit to the Engineer six (6) copies of all submittal data for review and/or approval. Submittals shall include at a minimum: (1) The manufacturer's name, (2) type of material, (3) ASTM, ANSI, AWWA or other quality standard, and (4) pressure class. If the materials do not meet the quality standards specified, the submittals will be rejected and other materials submitted as specified. The Contractor must obtain approval of all materials prior to commencing construction.

03. DELIVERY, STORAGE AND HANDLING OF MATERIALS:

Materials shall be delivered, handled and maintained in a manner to avoid damage due to breakage or contamination.

04. TAPPING SADDLES:

Tapping saddles shall provide full support around the circumference of the pipe with a designed to safeguard against over-tightening to prevent deforming the pipe. All parts of the saddle shall be constructed of corrosive resistant bronze including bolts and nuts

required to assemble. Only saddles designed specifically for the type water main pipe used shall be allowed. Threads shall be AWWA standard cc tapered. Ford, A.Y. McDonald, Mueller or approved equal will be accepted in all areas within the City of Elizabeth City upon approval.

05. CORPORATION STOPS:

Corporation stops shall be of bronze construction and a minimum size of $\frac{3}{4}$ " (inlet and outlet). Inlet threads shall be AWWA Standard Taper cc. A brass compression fitting adapter for the appropriate water service pipe size is required. Ford and A.Y. McDonald will be accepted in all areas within the City of Elizabeth upon approval.

06. PIPE FOR SERVICE LINES:

Pipe for service lines shall be $\frac{3}{4}$ or 1 inch 200 psi copper tubing AWWA C901 or HDPE SDR9 "Endopur" (unless otherwise specified). Insert stiffeners shall be stainless steel.

A. Marking: The following data shall be clearly marked on all service pipe installed:

- (1) Nominal size
- (2) Operating pressure @ 73.4 degrees F
- (3) Type of pipe, i.e. "water service pipe"
- (4) Material designation code.
- (5) Date code: Month, year and day
- (6) Manufacturer's brand name

(7) **National Sanitation Foundation** logo (indicating approval for potable water and compliance with ASTM Specifications)

- (8) **ASTM** Specification - "**ASTM D-2239**"

Plant location code

07. METER STOPS/CURB STOPS:

Curb stops shall be $\frac{3}{4}$ " min. (inlet and outlet) of bronze construction and with lock wings. Inlets shall have a brass adapter as required for compression fitting to "CTS" for $\frac{3}{4}$ " service pipe. Outlets shall be male threads with a brass swivel meter nut. Ford, A.Y. McDonald, or approved equal will be accepted in all areas within the City of Elizabeth City upon approval.

08. COMPRESSION FITTINGS:

Compression fittings shall be Ford, "Pack-Joint" or an approved equal. A plastic insert will be required with any fitting that compresses the outside of the pipe to hold the pipe in place.

09. METER BOXES:

Meter boxes shall be supplied with each ¾", 1", 2", and 3" service connection. Boxes may be constructed of high-density polyethylene. All box covers shall be all cast iron construction. Reader lids are not allowed. Meter boxes shall be cast iron when located within traffic areas including, but not limited to the DOT right-of-way, parking lots, and driveways.

A. A. Plastic Boxes: High-density polyethylene material used in the boxes shall meet or exceed the following physical properties:

- 0) 1.) Flexural modulus, psi - 90,000
- 1) 2.) Compression strength 10% deflection, psi - 1,100
- 2) 3.) Heat distortion, 66 psi - 170°
- 3) 4.) Specific gravity - .6
- 4) 5.) Hardness, Shore D - 58
- 5) 6.) Impact strength, 1016., falling dirt - 160 in-lb.
- 6) 7.) Total load at center of top - 2,800 + lbs.

Boxes shall not be less than 12" deep, by 18" long by 12" wide for ¾" and 1" services. Boxes shall not be less than 24" deep, by 36" long by 24" wide for 2" services.

10. METER SETTER:

A meter setter assembly shall be supplied and installed on all ¾", 1", and 2" service connections. Pre-approved manufacturer of meter setter is Ford, A.Y. McDonald, Mueller or approved equal will be accepted in all areas within the City of Elizabeth City upon approval.

The contractor shall provide an angle ball valve on the inlet side. The contractor shall provide an angle check valve on the outlet side

11. TEFLON TAPE:

Teflon tape shall be used on all threaded connections to reduce the possibility of leaking joints.

12. CHECK VALVES:

The Contractor shall supply with each service a check valve as described herein.

13. METER VAULTS:

Large meters (>4") shall be installed in reinforced concrete vaults. The designer shall provide construction details of meter vaults on the drawings. All meter vault designs shall be approved by the City of Elizabeth City.

Concrete will have a minimum compressive strength of 4,000 psi @ 28 days.

The Contractor shall provide and install sump pump in the vault. One-inch sch. 40 PVC discharge pipe shall be installed to an approved discharge point.

The access door shall be a single or double leaf aluminum door with a ¼" aluminum diamond plate cover. An extruded aluminum frame, and a removable key wrench. Access door shall be of the watertight type construction with a 1½" drainage coupling located in the channel frame. The drainage coupling shall be piped to the sump. The access door shall be Bilco type, JD or approved equal.

All piping shall be ductile iron pipe. Mechanical joint fittings shall be used outside of the vault with approved restraint mechanisms and flanged fittings shall be used inside the vault. All meter vaults shall have external bypass with shutoff gate valve. Dual check valves shall be supplied in line with the meter assembly. Check valves to be installed by contractor. Meter will be supplied by the City of Elizabeth City.

The Contractor shall guarantee a watertight vault for the period of the protected warranty.

All components of the meter vault assembly shall be provided and installed by the contractor.

14. METHOD OF MEASUREMENT:

Services shall be measured as a unit and shall include labor, materials, equipment and all incidentals required to install the following:

- B. A. Tapping saddle.
- C. B. Corporation stop.
- D. C. Service pipe and casing pipe if installed under roadway.
- E. D. Curb stop.
- F. E. Meter box.
- G. F. Meter: ¾" and 1" meters will be supplied and installed by the City of Elizabeth City. Meters greater than 1" will be supplied by the City of Elizabeth City and installed by the Contractor. The Contractor will pay a fee to the City of Elizabeth City for the meter. If the City of Elizabeth City installs a service the Contractor/Owner will pay a tap fee. Fees are determined by the City of Elizabeth City Schedule of Fees.
- H. G. Check valves: Check valves will be supplied and installed by the Contractor.

15. PAYMENT:

Payment shall be made at the contract unit price for items as measured above and per the Bid Item Definitions.

WATER MAINS AND APPURTENANCES

CONSTRUCTION METHODS

01. SCOPE:

This section shall include furnishing all labor, tools, equipment and other incidentals required for the construction of the water distribution system as shown on the drawings and as specified herein.

The work shall include laying pipe and setting fittings, valves, hydrants, and services, pressure testing and sterilization of the water distribution system.

Materials shall be as specified in previous sections of these specifications.

02. PIPE AND FITTINGS:

Pipe and fittings shall be laid as directed by the City of Elizabeth City, and located as shown on the drawings. No additional payment will be made due to location changes directed in the field by the City of Elizabeth City.

A. Trenching:

The trench shall be dug to the required alignment and depth as shown on the plans or directed by the City of Elizabeth City, and only so far in advance of the pipe laying as the City of Elizabeth shall permit. The width of the trench shall be kept at a minimum. The depth of the trench shall generally be sufficient to allow a minimum of three feet of cover over the top of the pipe. The bottom of the trench shall be shaped by hand and shall support the pipe for the entire length. It shall be the responsibility of the Contractor to provide adequate bearing for all pipe lines laid in uncertain soil conditions. If the trench bottom should be softened by flooding, rain or other causes, the unsuitable material shall be removed and replaced with suitable material properly shaped and tamped to grade. The use of timber or other material to support the pipe shall not be used.

B. Pipe Laying:

Water pipe shall be laid in conformance with the standards set forth by AWWA C-600, latest revision. All water pipe shall be laid by experienced workers with straight lines, even grades, and all joints shall be perfectly fitted. All pipe fittings, valves, hydrants, and accessories shall be carefully lowered into the trench with suitable equipment in a manner that will prevent damage to pipe and fittings. Under no circumstances shall pipe or accessories be dropped or dumped into the trench. Pipe and accessories shall be inspected for defects prior to their being lowered into the trench. Any defective, damaged or unsound material shall be repaired or replaced as directed by the City of Elizabeth City. All foreign matter or dirt shall be removed from the interior and machined ends of pipe and accessories before it is lowered into position in the trench.

Pipe shall be kept clean by means approved by the City of Elizabeth City, during and after laying.

1.) Jointing Mechanical Joint Pipe:

- a. Joining Existing Bell and Spigot to New Mechanical Joint: Due to the difficulty that may be encountered in attempts to make such a connection of this type, an adapter having a fitting bell and a M.J. socket may be used by the Contractor.
- b. Cleaning and Assembling Joints: Clean last 8" outside the spigot, and the inside of the bell of mechanical joint pipe to remove oil, grit, tar (other than standard coating) and other foreign matter from the joint and then paint area clean with an approved soap solution. The ductile iron gland shall then be slipped on the spigot end of the pipe with the extension of the gland toward the socket or bell end. The rubber gasket shall be painted with the soap solution and placed on the spigot end with thick edge toward the gland.
- c. Bolting of Joints: Push entire section of pipe forward to seat spigot and in the bell. Press gasket into place within the bell, being careful to have the gasket evenly located around the entire joint. Move ductile iron gland along the pipe into position for bolting, insert all bolts, and screw nuts up tightly with fingers. Tighten all nuts with a suitable (preferably torque-limiting) wrench. Tighten nuts that are spaced 180 degrees apart alternately in order to produce equal pressure on all parts of the gland.

2.) Jointing Rubber Gasket Pipe (Bell Tite, Tyton, or Equivalent):

- a. Cleaning Joint and Gasket: Clean gasket and spigot and inside of bell thoroughly to remove all dirt and other foreign matter.
- b. Inserting Gasket: Insert gasket furnished by the pipe manufacturer into the gasket seat in the bell. Gasket shall be properly seated in the grooves provided in the pipe bell.
- c. Lubricating Gasket and Pipe Spigot: Using a non-toxic vegetable soap, apply a film by hand to the inside surface of the gasket that comes into contact with the entering pipe and to the first 1" of the spigot end of the entering pipe. Use only lubricant specified by the pipe manufacturer.
- d. Final Assembling of Joint: Align entering pipe with the bell to which it is to be joined. Enter the spigot end into the bell until it just makes contact with the gasket. Apply sufficient pressure to force the spigot end past the gasket up to solid contact with the bell.

- e. Field Cutting Pipe: When it is necessary to field cut pipe with rubber gaskets, chamfer the cut end 1/8 inch x 30 degrees before inserting into a rubber gasket bell.
- f. Fittings: Fittings shall be installed where and as shown on the plans or as directed by the City of Elizabeth City. All bends (1/16 to 1/4), y-branches, plugs and all other fittings requiring such shall be sufficiently backed, blocked, or braced to preclude the possibility of their blowing off the main.

03. FIRE HYDRANTS AND VALVES:

Fire hydrants and valves shall be set as directed by the Engineer and located as shown on the drawings. No additional payment will be made due to location changes directed in the field by the City of Elizabeth City.

Fire Hydrants:

Fire hydrants shall be set where shown on the plans or as directed by the City of Elizabeth City. The hydrants shall be set upon a bed of compacted crushed stone at least thirty (30) inches square by ten (10) inches in depth. When the hydrant is backfilled, crushed stone or gravel shall be placed around the hydrant to a point just above the drain holes of the hydrant.

Valves:

All valves set by the Contractor shall include a cast iron or ductile iron valve box set to grade or as directed by the City of Elizabeth City.

04. CONNECTIONS TO EXISTING MAINS:

The Contractor shall make connection to the old mains when and as directed by the City of Elizabeth City. In no case shall the Contractor shut off the water or operate the fire hydrants or gate valves of the old distribution system without the expressed permission of the City of Elizabeth. In case it becomes necessary to delay the cut off, such instructions shall be given and obeyed without recourse.

In making connections to the old distribution system, valves shall be set as shown on the plan, or at such designated place as the City of Elizabeth City may direct. If due to unforeseen conditions, these locations have to be changed or additional valves or fittings added, the Contractor shall install the valves or fittings at the new locations at the unit price scheduled in the bid items. Payment for special fittings or couplings will not be made unless approved by the City of Elizabeth City prior to installation.

05. CONCRETE BLOCKING:

All turns, fittings, etc., that induce pressure which would cause separation of pipe, breakage, etc., shall be blocked with 3,000 lb. concrete. Blocking shall be formed and placed in such a manner that the pressure to be exerted at the point of blocking shall be transferred to firm, undisturbed earth at a maximum load of 2,000 lbs., per square foot. The Contractor shall insure that blocking at all tees, bends, plugs, etc., shall be sufficient to contain all pressure exerted by the pipe up to a pressure of 200 lbs. per square inch hydraulic pressure within the pipe, i.e. pressure at plug = 200 x (area of pipe in inches). Blocking shall be constructed as shown on the detail sheet contained in these specifications. The Contractor shall also be responsible for any damage or repairs caused by blowouts of any insufficiently blocked pipe.

06. PRESSURE TESTING:

Hydrostatic pressure testing shall conform to AWWA C-600, latest revision. Pressure testing shall be performed on all pipe, valves, hydrants, and fittings. The test shall be conducted on line segments from shut valve to shut valve in segments not exceeding 5,000 linear feet. The Contractor shall provide a suitable pump for applying pressure and an accurate gauge for measuring the pressure and a City of Elizabeth City approved method of determining volume of water used.

All newly laid pipe and any valved sections thereof shall be subject to a hydrostatic pressure of 1.25 times the working pressure or 150 psi (whichever is greater) at the testing point. The hydrostatic test shall be of at least two hour duration. Removal of air shall be performed to the satisfaction of the City of Elizabeth City through use of the air release valve assemblies (automatic and manual) and the fire hydrants. If determined necessary by the City of Elizabeth City, the Contractor shall install additional air taps to be abandoned after all air removal at no additional cost to the Owner.

Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe or any valved section thereof to maintain pressure within 5 psi (35 MPa or 0.35 bar) of the specified test pressure after the pipe has been filled with water and the air has been expelled. Leakage shall not be measured by a drop in pressure in a test section over a period of time. No installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{ND\sqrt{P}}{7,400}$$

Where:

- L = allowable leakage, in gallons per hour
- N = number of joints in length of pipe segment tested
- D = nominal diameter of the pipe, in inches
- P = average test pressure during the leakage test, in pounds per square inch (gauge)

When testing against closed metal-seated valves, an additional leakage per closed valve of 0.0078 gph/in. (0.0012 L/h/m) of nominal valve size shall be allowed.

The allowable leakage methods outlined above are as specified by AWWA C-600.

Acceptance shall be determined on the basis of allowable leakage. If any test of laid pipe discloses leakage greater than that specified above, the Contractor shall, at his own expense, locate and make approved repairs as necessary until the leakage is within the specified allowance

All visible leaks are to be repaired, regardless of the amount of leakage.

07. STERILIZATION:

Sterilization shall be performed in accordance with the requirements of the North Carolina Department of Environment and Natural Resources-Rules Governing Public Water Systems-15A NCAC 18 C.1003 and the requirements of AWWA C-651, latest revision. The pipe shall be sterilized and sampled in segments not exceeding 5,000 linear feet. All water samples for bacteriological analysis shall be submitted to a state-approved laboratory per Rules Governing Public Water Systems-15A NCAC 18 C. 1001(b).

Water mains, after flushing to remove sediment and other foreign matter, and after testing for leaks, shall be disinfected by the addition and thorough dispersion of a chlorine solution in concentrations sufficient to produce a chlorine residual of at least 50 milligrams per liter (or ppm) in the water throughout the distribution system, including all water mains and storage tanks.

The chlorine solution shall remain in contact with interior surfaces of the water system for a period of 24 hours. Then the water system shall be flushed with fresh water from an approved water source until the chlorine solution is dispelled.

Representative samples of the water shall then be collected. If bacteriological tests of the samples indicate that the water quality is satisfactory, the water mains may be placed in service.

The environment to which the chlorinated water is to be discharged shall be inspected. No chlorinated water will be allowed to discharge into surface waters. If there is any question that the chlorinated discharge will cause damage to the environment, then a reducing agent shall be applied to the water to be wasted to neutralize thoroughly the chlorine residual remaining in the water. (See AWWA C-651 Appendix B for neutralizing chemicals). Where necessary, Federal, State and local regulatory agencies should be contacted to determine special provisions for the disposal of heavily chlorinated water. This effort shall be coordinated fully by the Contractor.

No portion of the system shall be placed in operation until the tests are approved. If the presence of coliform bacteria is detected in the water samples, the section of pipe shall be resterilized and additional samples shall be taken.

If, during construction, trench water has entered the main, or if in the opinion of the City of Elizabeth City or job superintendent, excessive quantities of dirt or debris have entered the main, bacteriological samples may be required at intervals of approximately 200 feet shall be identified by location. Samples shall be taken of water that has stood in the main for at least 72 hours after final flushing has been completed.

08. METHOD OF MEASUREMENT:

The cost of laying pipe including connection of existing mains, pressure testing, sterilization, and bacteriological testing shall be included in the unit price per foot of pipe measured as previously specified. The cost of setting valves, fittings, water services, etc. shall be included in the cost per unit of the respective item measured as specified.

Blocking for fittings shall be included in the unit price per foot of pipe. This item shall include all labor, materials, equipment, and incidentals necessary to properly block all fittings and bends according to the detailed drawings contained herein.

09. PAYMENT:

Payment shall be made at the contract unit price on items measured as described herein per the Bid Item Definitions.

WATER MAINS AND APPURTENANCES

SITE WORK ON WATER MAINS

01. SCOPE:

This section shall include the clearing and grubbing of all required construction areas together with disposal of materials, site preparation, and clean up as specified herein.

02. SITE PREPARATION:

Existing Facilities:

The Contractor shall provide protection for all existing structures, buildings, and utilities against all construction activity. The Contractor shall protect and preserve the Owner harmless against damage and claims resulting from these activities.

Streets and Highways:

Effective barricades, danger signals and signs on all streets and in other locations where required for the protection of the work and the safety of the public, shall be provided, erected and maintained by the Contractor. Barricades and obstructions that encroach on, or are adjacent to, public rights of way shall be properly lighted between the hours of sunset and sunrise. The Contractor shall conform to all City of Elizabeth City, state and local laws and regulations in the use of streets and highways. The Contractor shall be responsible for all damages occurring due to neglect or failure to meet these requirements. When dictated by conditions that might endanger the public, a watchman shall be provided to fulfill the requirements stated herein.

Traffic Flow and Continuance of Services:

The work shall be arranged in a manner that will cause a minimum of disturbance to vehicular and pedestrian traffic. Adequate ingress and egress to both private and public property shall be provided by the Contractor during all stages of construction. Without written approval from the City of Elizabeth City or utility company, existing services shall not be interrupted by the construction work.

03. PRELIMINARY WORK:

Rights of Way:

Adequate working space shall be cleared along the pipe lines and space shall be provided for control stakes and hubs. Trees and permanent structures not located within the right of way of new streets shall be removed only as directed.

Valuable Trees and Shrubs:

When the construction work involves the removal of valuable trees and shrubs on existing public rights of way, the work shall be done in cooperation with the City of Elizabeth City, county, or state.

Protection of Private Property:

The Contractor shall provide protection for privately owned trees and shrubs bordering the right of way and shall take full responsibility for any damage that does occur.

D. Existing roads, subject to interference by the Contractor's work, shall be kept open in all cases. The Contractor shall provide, erect and maintain, at his own expense, effective barricades on which shall be placed acceptable warning and/or detour signs at each side of any road obstruction caused by the operations of the Contractor. All barricades shall comply with OSHA requirements and State or local laws, whichever is most strenuous.

E. The Contractor shall protect all public roads and bridges which may be damaged by, interfered with, or given undue wear by reason of the work, and shall repair or replace them if damaged, at his own expense, to the satisfaction of governmental authorities and the Owner.

F. When questions arise as to safe methods or suitable protection, the Contractor shall confer with the Owner but full responsibility for results shall rest with the Contractor.

04. FENCES AND GATES:

A. The Contractor shall not cut temporary openings or take down fences until he has contacted the property owner, tenant or occupant and arranged the ingress and egress to the right-of-way. All fences and gates removed for construction shall be replaced in like kind by the Contractor. Payment for fence and gate removal and replacement shall be by the Contractor.

B. In each case where the fence is opened, braced posts shall be installed capable of holding the tension in the fence wires so that the adjacent fence spans will not become slack. Where temporary openings are immediately adjacent to the corner post, the fence shall be firmly attached to the brace post, and the fence wire shall be removed or cut at the corner post. At other locations the fence openings shall be made by cutting the wires near one of the braced fence posts. In both the above cases, a gate shall be installed by the Contractor.

C. The Contractor shall be held responsible for damage to crops, livestock, or other property caused by his failure to keep fences, gates, and gaps in proper condition. Damage claims resulting from the Contractor's negligence with respect to

construction and maintenance and use of these gates, fences and gaps shall be the Contractor's full responsibility.

D. The continuity of electric fences shall be maintained at all times.

05. DAMAGES AND COMPLAINTS:

A. The Contractor shall provide protection which, in the opinion of the Owner, will prevent damage to the property, such as lawns, roads, fences, buildings, drains, bridges and pipelines by passage of his equipment, and shall assume sole responsibility for damages thereby incurred and shall notify the Owner immediately if and when damage occurs. The Owner shall be promptly notified of all pipelines that are broken by the Contractor's operations and immediate arrangements made for repairs. Damage to property shall be repaired to a condition that is as good or better than original.

B. The Contractor shall promptly comply with all reasonable requests of the landowners and tenants relative to access to right-of-way and to general conduct of his work; however, he shall not enter into any agreements with property owners or tenants on other matters such as the saving of logs or firewood or the disposal of brush without prior approval of the Owner and Engineer. In cases of disagreement between any landowner or tenant and the Contractor, the Contractor shall notify the Owner and Engineer immediately and shall not perform any further operations against the objections of the property owner or tenant without prior approval of the Owner and Engineer.

06. CLEARING AND GRUBBING:

Clearing and grubbing shall be performed in areas indicated and where required for construction. It shall include the complete removal and disposal of all brush, weeds, timber, stumps, rubbish and all other obstructions. All such material shall be removed to a depth of at least one foot below finished grade. In clearing and grubbing areas where excavation is done, all timber, roots, or stumps removed that are exposed by said excavation shall be removed to a depth of one foot below the excavated surface.

07. DISPOSAL OF CLEARED AND GRUBBED MATERIAL:

All refuse from the clearing and grubbing operation shall be disposed of either by burning or removal to a dump area that is approved by the Owner. The Contractor shall obtain a burning permit from the City of Elizabeth City fire chief before any burning is started. Burning, if approved, shall be done in such a manner that does not create hazards such as damage to existing structures, trees and vegetation, interference with traffic and construction in progress. When the construction site is outside the City of Elizabeth City limits and burning is required, proper permits shall be obtained from the City of Elizabeth City, county or state officials. All disposal by burning shall be kept under constant supervision until all fires have been

extinguished. All burning shall comply with all state and local laws relative to the building of fires.

08. PAVEMENT REMOVAL AND REPLACEMENT:

Removal:

When pipe is to be laid in or across existing paved streets, driveways, sidewalks and swales, the pavement shall be cut to true and neat lines as directed by the Engineer. All cuts shall form a straight line. Any broken off sections or corners shall require the entire length to be recut in a new straight line. All broken pavement shall be removed before trenching is started.

Replacement:

The pipe trench shall be backfilled with granular select material to within 10 inches of the pavement surface. The trench shall then be filled with ABC stone to the surface and sufficiently compacted. The stone fill shall be maintained in a workmanlike manner until the surface has been replaced in a manner consistent with the original paving material.

1. Asphalt Replacement: The edges of the asphalt shall be neatly trimmed to a new face and mopped with asphalt cement. The asphalt surface shall be placed and thoroughly rolled to a smooth, dense surface true to adjacent areas of the street. The asphalt surface course shall consist of Type S9.5A bituminous concrete surface course in accordance with North Carolina Department of Transportation Specifications.

2. Concrete Replacement: Concrete replacement shall be performed in accordance with North Carolina Department of Transportation Standard Specifications for Roads and Structures, 1991, Sections 848-1 through 848-3 and 850-1 through 850-3.

Cut areas shall be maintained by the Contractor in a safe, passable condition until paved. Should the area create a dusty condition, the Contractor shall remedy this condition by the use of water or calcium chloride. Special care shall be given to the areas cut in traffic lanes and intersections by placing crushed stone and maintaining in a smooth condition at the Contractor's expense.

Curb and Gutter Replacement:

Existing curb and gutter removed, disturbed or destroyed by construction, shall be replaced or repaired in a manner consistent with North Carolina Department of Transportation Standard Specifications for Roads and Structures, 1991, Sections 846-1 through 846-3.

State Highway Crossings:

All construction related to state highway crossings shall be in full compliance with all requirements of the permit and to the satisfaction of the Department of Transportation.

Warranty Period:

All pavement, concrete or gravel open cut and patches shall be covered for the full warranty period of the project.

09. RELATION OF WATER MAINS TO SEWERS:

Lateral Separation of Sewers and Water Mains:

Water mains shall be laid at least 10 feet laterally, from existing or proposed sewers, unless local conditions or barriers prevent a 10-foot lateral separation in which case:

1. The water main is laid in a separate trench with the elevation of the bottom of the water main at least 18 inches above the top of the sewer; or
2. The water main is laid in the same trench as the sewer with the water main located at one side on a bench of undisturbed earth, and with the elevation of the bottom of the water main at least 18 inches above the top of the sewer.

Crossing a Water Main Over a Sewer:

Whenever it is necessary for a water main to cross over a sewer, the water main shall be laid at such an elevation that the bottom of the water main is at least 18 inches above the top of the sewer, unless local conditions or barriers prevent an 18 inch vertical separation in which case both the water main and sewer shall be constructed of ferrous materials and with joints that are equivalent to water main standards for a distance of 10 feet on each side of the point of crossing. The Contractor shall receive approval in the field from the Engineer before payment will be made at ductile iron prices.

Crossing a Water Main Under a Sewer:

Whenever it is necessary for a water main to cross under a sewer, both the water main and the sewer shall be constructed of ferrous materials and with joints equivalent to water main standards for a distance of 10 feet on each side of the point of crossing. A section of water main pipe shall be centered at the point of crossing.

10. WETLANDS:

In wetland areas where a compaction of the backfill cannot be obtained the Contractor shall install compacted gravel 6" below the pipe and up to the centerline

of the pipe. Crushed stone or crushed gravel used for pipe bedding shall meet ASTM C33 gradation 57.

11. ARCHAEOLOGICAL:

If the Contractor, during the prosecution of work, encounters an unidentified archaeological or other cultural resource within the work area, the Contractor shall immediately stop work and notify the Engineer.

12. METHODS OF MEASUREMENT:

The measurement of payment items are defined within the Bid Form Definitions.

13. PAYMENT:

These items herein shall be paid per the Bid Form Definitions.

Payments shall be made at contract unit prices.

CITY OF ELIZABETH CITY

WATER MAINS AND APPURTENANCES

SPECIAL PROVISIONS

01. WARRANTY PERIOD:

A one-year warranty period shall begin on the date of substantial completion as defined by the General Conditions.

02. PIPE:

All pipe shall be PVC C-900, PVC C-905 or ductile iron pressure class 350 as listed in the Pipe for Water Mains Specifications.

03. HYDRANTS AND VALVES:

Adjustment of fire hydrant fittings and valves shown at intersections shall be made by the Contractor in the field subject to the desire of the Engineer without any increase or decrease in unit price. No additional compensation will be paid for varying right-of-way widths when installing fire hydrant legs. No additional compensation will be made for setting fire hydrants to grade or for fittings on the hydrant leg.

All hydrant valves shall utilize grip ring pipe restrainers as manufactured by Romac Industries or approved equal. The use of hydrant tees is acceptable.

All stainless steel tapping sleeves shall be the fully gasketed, wrap-around type. Mechanical joint tapping sleeves are not acceptable.

04. TESTING AND STERILIZATION:

Pressure testing shall begin after main water lines are installed. Sections to be tested shall be between valves not to exceed 5,000 feet per test. Pressure test will be for two hours. All lines shall be tested at 1.50 times the working pressure or 150 psi whichever is higher. Water for testing and blow-off may be obtained from existing water mains.

Sterilization shall be accomplished by filling the pipe with chlorine solution of sufficient strength such that after 24 hours contact time, there will be 50 mg/l residual chlorine. Sections to be sterilized shall not exceed 5,000 feet under any circumstances. The pipe shall be flushed and refilled and a bacteriological sample will be taken by the Contractor 24 hours after the pipe is flushed and refilled.

05. SEDIMENTATION AND EROSION CONTROL:

The Contractor is instructed to control erosion and sedimentation run-off with methods approved by the Engineer during the course of construction of this project. The Contractor shall implement approved erosion and sedimentation control measures whenever necessary. Cost for erosion and sedimentation control shall not be paid directly but shall be included in the line item for pipe installation in the Schedule of Bid Items. The Contractor is reminded that all work shall meet all applicable requirements of the rules and regulations of Erosion and Sedimentation Control as published by the Department of Natural Resources and Community Development, North Carolina Sedimentation Control Commission. The Contractor shall be required to obtain written close-out from the Land Quality Section - DENR.

06. STORM SEWER CROSSINGS:

Concrete for storm sewer separation as detailed shall not be paid directly, but will be considered under the Bid Items for Concrete Blocking. Where utility work crosses storm sewers concrete shall be utilized as per details as directed by the Engineer.

07. SEEDING AND MULCHING:

Payment for seeding and mulching the areas disturbed during construction shall not be made directly but shall be included in the cost per linear foot of water main.

08. SODDING:

Areas of existing manicured lawns (turf or sod) shall be protected or repaired to the original condition. See Section 10 - Seeding and Turfing. Payment for replacing sod disturbed during construction shall not be made directly but shall be included in the cost per linear foot of water main.

09. DUCTILE IRON PIPE FOR WATER LINES:

Contractor shall be responsible to provide all fittings or couplings necessary to connect PVC pipe to ductile iron pipe needed within this Project. This work shall be considered an incidental part of construction and will not be paid for directly.

10. DAMAGE TO EXISTING CULVERTS:

The Contractor shall remove and replace existing culverts and drainage structures as necessary during the construction of the water lines. Any damage to the culverts shall be replaced by the Contractor at no additional cost to the Owner.

11. INSTALLATION WITHIN NCDOT RIGHTS-OF-WAY:

All work performed within North Carolina Department of Transportation rights-of-way shall be performed in strict accordance with the NCDOT Construction and Maintenance Operations Supplement to the Manual on Uniform Traffic Control Devices. The Contractor shall be responsible for performing the work and adhering to the Right-of-Way Encroachment Contract Special Provisions. The Contractor shall be required to obtain written close-out from NCDOT.

In addition to the 100% Performance and Payment Bonds required by the Owner, the North Carolina Department of Transportation requires an additional Performance Bond for the project. The successful low bidder shall coordinate with the District Engineer's office to furnish the bond and assure the bond is executed in the proper manner.

12. WORK SCHEDULE:

Prior to commencing work, the Contractor will submit to the Engineer a schedule delineating the order in which the mains will be installed and approximate beginning dates for each.

13. CONCRETE:

The Contractor will be required to supply batch tickets for concrete where the bid item is paid for on a cubic yard basis such as concrete for blocking. Concrete for storm sewer separation as detailed shall not be paid directly but will be considered under the bid item for concrete blocking.

14. SUBMITTALS:

Approval for all shop drawings and submittals will be obtained before the Contractor is allowed to begin work.

15. VIDEOTAPING:

The Contractor is required to videotape all areas to be disturbed prior to construction and after construction is complete. This will be coordinated with the Engineer. Special attention shall be given to items such as driveways and landscaping. A copy of the videos shall be supplied to the Owner.

16. TESTING:

The Engineer's representative will be present at all pressure tests.

17. COMPACTION OF TRENCHES:

All trenches shall be compacted to 95% density as required by NCDOT. Any density test requested by the Engineer or NCDOT shall be paid for by the Contractor. All trenches for road cuts will be compacted by mechanical means.

18. SHOP DRAWINGS:

Shop drawings shall be submitted for all metal castings including manhole rings and covers, valve boxes, and catch basin frames and grates. Manufacturer's certifications shall be submitted to the Engineer certifying that all pipe meets the project specifications. Concrete mix designs, the detail specifications, and bituminous concrete plant mix designs of the detail specifications shall be submitted to the Engineer for approval. None of the above listed materials shall be used on the project unless the necessary approval for that particular material has been given by

the Engineer. The Contractor shall submit six sets of all shop drawings, certifications and mix designs required within this contract.

19. AS-BUILT DRAWINGS AND SPECIFICATIONS AT THE JOB SITE:

The Contractor shall maintain, in readable condition at the job site, one complete set of working drawings and specifications for his work, including all shop drawings. Such drawings and specifications shall be available for use by the Owner or his representative at all times. This set shall be marked, or notes acceptable to the Engineer provided, in order to reflect as-built conditions, changes indicating such conditions shall be kept current at all times. Upon completion of the project, this complete set of drawings and specifications or notes, showing as-built conditions, shall be returned to the Owner or his representative.

20. DETECTABLE TAPE:

A detectable tape for protection of underground water lines shall be used for the water distribution main. The tape shall be an inert, bonded layer plastic with a metallized foil core and shall be highly resistant to alkalis, acid, or other destructive chemical components likely to be encountered in soil. The tape shall be brightly colored to contrast with soil and shall bear an imprint identifying the type of line buried below. The tape shall be minimum of 2 inches wide.

The tape shall be buried a maximum of 12 inches below the ground surface directly above the water line with printed side up. The Contractor shall take necessary precaution to insure that the tape is not pulled, distorted, or otherwise misplaced in completing the trench backfill. The tape shall be Terra Tape as manufactured by Griffolyn Co., Inc. or an Owner approved equal.

Compensation paid to the Contractor for detectable tape shall not be a separate pay item but shall be absorbed in the appropriate unit prices and/or lump sum prices of items in the proposal.

21. FIRE HYDRANTS:

The Contractor will be required to wrap and seal plastic bags around each new fire hydrant set on the project. It will be removed when the hydrants are placed in service.

22. TIE-INS:

The Contractor will be required to coordinate all tie-ins with the Owner. No water mains will be cut off without consent of the Owner.

23. CONCRETE BLOCKING:

All fittings and valves shall be wrapped in plastic before pouring concrete for thrust blocks.

CITY OF ELIZABETH CITY
DETAILED SPECIFICATIONS
SEWER MATERIALS

01. GENERAL:

All material shall be of the best commercial quality for the purpose specified and shall be free from defects that might impair the strength and durability.

Where two or more materials are specified as acceptable for the same service and where proposals are requested from the bidders for each material, the Owner reserves the right to select the material to be used and to award the contract on either low prices or other construction that he determines to be in his best interest. This right is further extended to allow the Owner to award a contract on the basis of using one material in a portion of the contract, or under one set of conditions, and an alternate material in another portion of the contract, or under another set of conditions if such a division is recommended by the Engineer and is determined to be in the Owner's best interest.

02. PIPE:

A. Concrete:

Concrete pipe shall conform to ASTM C-14, High Strength, except for special conditions, such as railroad and river crossings. In these cases, the project Engineer (s) shall designate the class of concrete pipe proposed on the working drawings. All concrete pipe 18" and larger shall conform to ASTM C-76.

B. Ductile Iron:

Shall conform to the requirements of ANSI A21.51 (AWWA C151). See plans and/or bid items for thickness classifications.

1. Joints: Mechanical ASA Specifications A21.11 (AWWA C111). Push on single gasket conforming to Federal Specifications WW-P-421b, Type II.
2. Pipe Lining: Ceramic Epoxy Lining (Protecto 401 or equal).
3. Exterior Coating: Bituminous in accordance with manufacturer's specifications.

C. PVC Pipe (Gravity Sewers):

All PVC Pipe shall conform to ASTM D-3034, SDR 26.

1. Joints: All joints shall use a rubber gasketed system.

2. Installation: Pipe and fittings will be in accordance with ASTM D-2321. Only Class I, II, III embedment materials will be considered suitable for PVC applications.
3. Fittings: All fittings shall conform to ASTM D1784.
4. Services for SDR26 Systems: All 4" and 6" sewer service pipe and fittings shall be SDR 26 gasketed joints. PVC Sch. 40 with glued joints only as approved by the owner.

D. PVC Pipe (Sewer Force Mains):

Thickwall PVC pipe shall conform with AWWA C-900, latest revision for polyvinyl chloride pressure pipe sizes 4-inch through 12-inch (and AWWA C-905 for diameters > 14"). Class 150, DR 18 pipe as called for on the plans or scheduled bid items shall be furnished. Pipe shall be furnished in cast iron pipe equivalent outside diameters with rubber-gasketed separate couplings or push-on joints. Pipe and couplings shall not fail when subjected to the following tests; (1) sustained pressure (2) burst pressure (3) flattening and extrusion quality. Tests shall be conducted as outlined in AWWA C-900. Each length of PVC pipe shall pass a hydrostatic integrity test at the factory 4 times the pressure class of the pipe for 5 seconds.

Pipe shall be furnished in 20 ft. laying lengths. Random lengths shall be a minimum of 10 feet long and shall comprise no more than 15 percent of the length of the piping system. Pipe shall be furnished in factory packaged units, with each joint plainly marked with the manufacturer's name, pressure class, size, etc.

03. BURIED WARNING AND IDENTIFICATION TAPE (Sewer Force Main)

Metallic core or metallic-faced, acid-and alkali-resistant, polyethylene plastic warning tape manufactured specifically for warning and identification of buried utility lines. Provide tape on rolls, 3 inch minimum width, color coded as specified below for the intended utility with warning and identification imprinted in bold black letters continuously over the entire tape length. Warning and identification to read, "CAUTION, BURIED (intended service LINE BELOW)", or similar wording. Color and printing shall be permanent, unaffected by moisture or soil.

Warning Tape Color Codes:

Green: Sewer Systems

Install tape in accordance with manufacturer's recommendations except as modified herein. Bury tape 12 inches below finished grade; under pavements and slabs, bury tape 6 inches below top of subgrade.

04. FITTINGS (Sewer Force Mains):

A. Ductile Iron:

Ductile iron special castings or fittings shall be all mechanical joint. The special castings or fittings shall be manufactured in strict accordance with Specifications ANSI A21.11 (AWWA C111). Fittings 3" - 12" shall be Class 250; 14" and larger may be Class 150. No push-on or Fernco type fittings will be allowed.

In the case of mechanical joint fittings, payment shall be made on a per unit basis and shall include the body and accessories.

All ductile iron fittings shall be inside lined with ceramic epoxy (Protecto 401 or equal) and have a bituminous coating outside.

B. Pigging Stations:

Pigging stations -if specified- will be of ductile iron pipe.

05. VALVES (Sewer Force Mains):

A. Air Release Valves:

Air release valves shall be designed to permit release of air from an empty pipe during filling and shall be capable of discharging accumulated air in the line while the line is in operation and under pressure. Air valve assemblies shall include valve, manhole, tapping saddle and valve, flat top manhole, fittings and appurtenances required for a complete and operable air valve installation. Valves shall be attached by means of threaded pipe connections. Valves shall be vented to the atmosphere.

Air release valves shall be automatic. Automatic air release valves shall be of the compound lever type capable of withstanding operating pressures of 150 psi. The valves shall be of a 1/2-inch outlet. The body and cover of the valve shall be of iron with a stainless steel float. All internal parts shall be stainless steel or bronze. The valve shall be specifically adapted for use with sewage. Each valve shall be complete with hose and blow-off valves to permit backflushing without dismantling the valve.

B. Resilient-Seated Gate Valves (2"-16"):

Note: The information below is also located in Section 9, Subsection 13.

Gate valves shall conform with AWWA C-509, latest revision. All valves shall be of iron body, bronze mounted, resilient seat type. Gate valves shall be Mueller, Clow, American Flow Control or approved equal.

Valves for buried use shall be NRS with 2-inch square operating nut. Valves for aboveground use shall be OS&Y design with handwheel. Valves shall be manufactured with "O" Ring stem seals.

Valves 16" and larger shall have a by-pass to equalize pressure on both sides of the valve to facilitate opening. All valves 24" and larger shall be equipped with gearing and asbestos packing.

Valve ends shall be of the size and type required for connections to the type service line used, i.e. valves with AC pipe bells shall not be adapted to PVC pipe. Standard connections shall be as follows:

Ductile Iron Pipe - Bolted Mechanical Joint
PVC Pipe - Bolted Mechanical Joint
D.I. Hydrant Leg - Bolted Mechanical Joint

Pressure ratings for the valves shall be as follows:

WORKING SIZE	HYDROSTATIC PRESSURE	TEST PRESSURE (SHELL)
2"-12"	200 psi	400 psi
14"-24"	150 psi	300 psi

C. Check Valves:

Check valves shall be manufactured to meet or exceed the requirements of ANSI/AWWA C508-93 or latest revision. The valve disc and clapper assembly shall be removable from valve body with valve remaining in pipeline. The disc shall not contact the body when the valve is in the full open position. Check valve shafts shall be stainless steel with corrosion resistant bearings provided at each end. Shaft and bearings are to be replaceable. Valves 2" to 12" shall be rated at 175 psi working water pressure.

Valves for use in aboveground installations shall be flanged end without side spring and lever or when positioned horizontally weight and lever shall be used. Valves for underground service shall have mechanical joint ends with an internally weighted swing disc.

D. Valve Boxes:

Adjustable valve boxes shall be of equal quality and workmanship to those manufactured by Mueller Company, APCO, Resslerer Valve Company or approved equal. Valve boxes shall be of close-grained gray cast iron. The valve boxes shall be the two-piece screw type and the cover or cap shall have cast on the upper surface in raised letters the word "Sewer". Valve boxes shall be painted with a coat of protective asphaltum paint before being shipped from the factory. Concrete protector rings shall be placed around valve boxes.

06. MANHOLES:

Manholes shall be built of precast concrete sections.

- A. Precast Concrete Manholes:
- B. All Manholes shall be vacuum tested in field prior to backfilling. The successful bidder shall submit three copies of shop drawings of the precast manholes to be used for approval by the City Engineer before ordering the manholes for the proposed project. Excavation will be made to the required depth and the foundation on which precast manhole is to be set shall be approved by the City Engineer. The excavation shall include the removal of obstructions and the removal of unstable materials unsuitable for a good foundation. Precast manholes with preformed bottoms shall be set on a minimum of 6" of gravel or stone base. The stone or gravel base shall be placed over an area not less than 6'x 6' centered on the centerline of the proposed manhole location.

Inverts:

The invert channels shall be smooth and semicircular in shape conforming to the inside of the adjacent sewer section. Changes in direction of flow shall be made with a smooth curve of as large a radius as the size of the manhole will permit. Changes in size and grade of the channels shall be made gradually and evenly. The invert channels shall be formed directly in the concrete of the manhole base, or shall be built up with brick and mortar, or shall be half tile laid in concrete, or shall be constructed by laying full section sewer pipe through the manhole and breaking out the top half after the surrounding concrete has hardened. The floor of the manhole outside the channels shall be smooth and shall slope toward the channels not less than 1 inch per foot nor more than 2 inches per foot.

Barrel:

The barrel of the manhole shall be constructed from precast, reinforced sections, stacked to form the manhole and manufactured according to the latest revision of ASTM C-478. The tapered section of the manhole shall be manufactured under the same specification and designed in a manner to suit the Engineer's requirements. Top slabs of manholes shall be designed to support street traffic and H-20 loadings. Precast manhole sections shall be joined with mastic material to show both inside and outside.

Pipe Connection:

Inlet and outlet pipes are to be connected to the manholes by means of flexible connectors cast into the manhole section. Flexible connectors are to be manufactured of high quality rubber or synthetic rubber and all strap clamps or draw bolts are to be manufactured from stainless steel. Free drop inside the manholes shall not exceed 500 mm, 1 foot 6 inches, measured from the invert of the inlet pipe to the top of the floor of the manhole outside the channels, and drop manholes shall be constructed whenever the free drop would otherwise be greater than 500 mm, 1 foot 6 inches. Any penetrations made to existing or new manholes shall be done by means of core drilling and installing a rubber boot. **Grouting alone will not be allowed.**

Manholes Steps:

Copolymer polypropylene plastic with 1/2" grade 60 steel reinforcement and resist 1000 lbs. pullout test.

Jointing and Plastering:

Mortar joints shall be completely filled and shall be smooth and free from surplus mortar on the inside of the manhole. Mortar and mastic joints between precast rings shall be full-bedded in jointing compound and shall be smoothed to a uniform surface on both the interior and exterior of the manhole. Installation of rubber gasket joints between precast rings shall be in accordance with the recommendations of the manufacturer.

Cement mortar shall conform to ASTM C 270, Type M with Type II cement.

Portland cement shall conform to –ASTM C 150-, Type [III] [V] for concrete used in concrete pipe, concrete pipe fittings, and manholes and type optional with the Contractor for cement used in concrete cradle, concrete encasement, and thrust blocking. [Air-entraining admixture conforming to ASTM C 260 shall be used with Type V cement.] [Where aggregates are alkali reactive, as determined by Appendix XI of ASTM C 33, a cement containing less than 0.60 percent alkalis shall be used.]

Portland cement concrete shall conform to ASTM C 94, compressive strength of 28 Mpa (4000 psi) at 28 days, except for concrete cradle and encasement or concrete blocks for manholes. Concrete used for cradle and encasement shall have a compressive strength of 17 MPa 2500 psi minimum at 28 days. Concrete in place shall be protected from freezing and moisture loss for 7 days.

Manholes Frames and Covers:

Manholes frames and covers shall be designed for heavy traffic weighing not less than 350 lbs. All rings and covers shall be manufactured from gray cast iron conforming to ASTM A48 Class 35B, and be provided un-dipped and free of coatings. All iron material used in street and utility castings provided to the City of Elizabeth City shall have a minimum recycled material content of 75%. The recycled materials shall consist of post-consumer material. Unless otherwise indicated, tops of frames and covers shall be set flush with finished grade in paved areas 2 inches higher than finished grade in unpaved areas. The word "Sewer" shall be stamped or cast into covers so it is plainly visible.

Material Quality:

The manufacturer shall provide copies of test bar tensile tests conducted at the producing facility and at an independent test lab obtained from separately cast test bars that indicate iron tensile strength from the same heat number or cast date. All bars to be marked with the cast date and heat number. The results from both tests must confirm the material meets ASTM A48 Class 35B.

Quality Audits:

A manufacturer may be required at anytime to provide test bar data and/or unfinished test bars for evaluation. In addition, the manufacturer may be required to provide a sample casting to the City at no charge for proof loading (Maximum one casting set per calendar year). If the manufacturer's material quality is not in compliance with ASTM A48 Class 35B, or if a casting fails the proof load test, the City reserves the right to remove the manufacture from the list of approved suppliers.

Casting Proof Load:

The manufacture shall provide copies of a first article proof load test conducted on the subject castings (one for each model number specified) and the results shall be made available to the City. The proof load test shall be conducted in accordance with methods and procedures that are outlined in ASSHTO M306, Sections 7.0, and Proof Load Testing. The machine that the proof load is conducted on shall be calibrated at least annually. The castings shall maintain a 40,000 pound proof load for one minute without experiencing any cracking or detrimental deflection.

Markings: In order to provide traceability, all castings shall be clearly marked with manufacture name, NCDOT specification number (if applicable), part number, Country of Origin, cast date and heat number. If the castings are imported, the Country of Origin must be placed on each cast piece and placed in a manner consistent with current Federal Customs Regulation

Approved East Jordan Iron Works V-1384-1, Heavy Duty V-2384-1, Watertight V-2027 ZVH, US Foundry or Approved equal.

Manhole frames shall be bolted to manhole cone with 1/2" dia. kwik bolt stub anchor system.

07. METHOD OF MEASUREMENT AND PAYMENT:

See Bid Form Definitions.

CITY OF ELIZABETH CITY
DETAILED SPECIFICATIONS
SEWER PIPE INSTALLATION

01. GENERAL:

Pipe shall be protected during handling against impact shocks and free fall and the pipe interior shall be free of extraneous material.

The Contractor shall not lay pipe until the City of Elizabeth City's designated representative has checked and approved the grade. Any pipe laid without the approval of the City Engineer shall be removed and relayed if directed.

Whenever the City of Elizabeth City's designated representative authorizes the use of wood blocks or "Mud Sills" for supporting the pipe, such sills shall be at least 6" longer than the O.D. of the pipe and in section shall be at least 2" by 10" for 12" and larger pipe. No extra compensation shall be allowed for the use of such material.

Pipe shall not be laid in water, and water shall not be allowed to flow against or over the joints until they have properly set. Trenches shall be kept free of water and as dry as possible during bedding, laying, and jointing and for as long a period as required. When work is not in progress, open ends of pipe and fittings shall be satisfactorily closed so that no trench water or other material will enter the pipe or fittings.

Pipe laying shall proceed upgrade with the spigot ends of bell-and-spigot pipe and tongue ends of tongue-and-groove pipe pointing in the direction of the flow. Each pipe shall be laid accurately to the line and grade shown on the drawings. The pipe and specials shall be so laid in the trench such that after the sewer is completed, the invert of the pipe shall conform accurately to line and grade.

Previous to being lowered into the trench, the pipe foreman shall carefully inspect each pipe, and all faulty pipes shall be rejected and removed from the jobsite.

A bell hole shall be dug for each pocket. Bell holes shall be no larger than necessary for making the joint. The bottom of the trench shall be shaped to fit the bottom quarter of the pipe to insure a firm even bearing on undisturbed earth of the entire length of the pipe.

The interior of the bell of the last pipe laid and the spigot of the next pipe shall be wiped clean and dry as each joint is laid.

Rubber gaskets shall be installed, lubricated and protected strictly as recommended by the pipe and/or gasket manufacturer. In case pressure from the compressed gasket tends to open the joint after it is made, the Contractor will provide a positive means of holding pipe joints after installation to hold the joint as made.

Installations of solvent weld joint pipe, using ABS or PVC pipe and fittings shall be in accordance with ASTM F 402. All required precautions shall be taken to assure adequate trench ventilation and protection for workers installing the pipe.

As soon as possible after the joint is made, sufficient backfill material shall be placed along the pipe to prevent pipe movement off line or grade. Plastic pipe shall be completely covered to prevent damage from ultraviolet light.

02. PIPE SEPARATION

See Special Provisions- Subsection 9.

03. PIPE BEDDING REQUIREMENTS (GRAVITY MAINS):

The following are minimum bedding requirements for gravity sewers. See the special provisions of this contract for any revisions to these minimum requirements.

Ductile Iron or PVC SDR 26 Piping: Pipe shall be bedded in 3/4" maximum diameter granular material placed on the flat trench bottom. PVC pipe installation shall be in accordance with ASTM D2321.

The granular bedding shall have a minimum thickness of 4" and shall be backfilled with stone to 1/2 diameter of the pipe. The backfill for a minimum of 24" over the top of the pipe shall be carefully compacted material brought up on maximum 6" lifts.

04. GRADE:

- A. Laser Beam: If laser beam equipment is used, the Contractor will check the pipe grade and alignment every 50', by on line and grade instruments, to insure that the pipe is being laid according to plans and/or cut sheets. The laser beam shall be sensitive to 1.0 percent of the diameter of the pipe being measured and shall be accurate to 1.0 percent of the indicated dimension. Installed pipe showing deflections greater than 7.5 percent of the normal diameter of the pipe, or 5 percent for RTRP and RPMP, shall be retested by a run from the opposite direction. If the retest also fails, the Contractor at no charge to the Owner will correct any deviations in grade or alignment.

05. INSPECTIONS AND TESTING:

The City of Elizabeth City's designated representative prior to the line being placed into service shall perform visual inspection of individual legs of the gravity sewer main between manholes. The sewer main shall exhibit a full circle pattern when viewed. It shall also be free of any obstructions, rocks, pieces of wood, dirt, etc. and shall be true to line and grade.

- A. Flushing: Any obstructions revealed during visual inspection of the line shall be removed by flushing with water at a minimum velocity of 2.5' per second until the line is clean.
- B. Infiltration: Leakage into the sewer shall not exceed 100 gallons per day per inch of pipe diameter per mile of sewer for any section between manholes. If leakage into the sewer appears excessive, the Contractor shall initiate a testing program determined by the City of Elizabeth City's designated representative

Method A: plugging the high side opening of both the upper and lower manholes shall test each leg of sewer. The pipe will then be filled with water with approximately 6' of head above the crown of the pipe maintained in the upper manhole. Leakage will be determined by measured additions of water required to maintain the specified head. If ground water is present to a point at least 4' above the crown of the sewer, the leakage test may be made by measuring the amount of infiltration. The duration of the test shall be 24 hours.

Method B: If unable to locate leakage-using Method A, a low-pressure compressed air test may be used. Low pressure air testing for PVC pipe shall be prescribed in UBPPA UNI-B-6. A section of sewer main shall be considered acceptable when tested at an average of 3.0 psi above any backpressure applied by groundwater above the pipe, when that section does not lose air at a rate greater than 0.0030 cfm per square feet of internal pipe surface. If this method is used, separate infiltration/exfiltration tests will be performed on each manhole

- A. Deflection Testing: PVC pipe SDR 26. The entire length of the sewer lines shall be tested by means of a rigid nine prong mandrel pulled through the pipe to assure that deformation or deflection has not exceeded five percent. Testing shall be performed prior to asphalt replacement in areas where paving is to occur. Any sections that do not pass testing shall be corrected or replaced at the Contractor's expense. The Contractor is required to supply all materials needed for mandrel testing. This testing shall be considered incidental to project costs and included in the unit price cost for pipe installation. The maximum allowable deflection will be five percent. Mandrel size will be in accordance with the following table:

<u>Main Size (inches)</u>	<u>Mandrel Dimensions (inches)</u>
8"	7.114
10"	8.874
12"	10.548

06. CONCRETE CRADLE AND ENCASEMENT:

When indicated on the plans or directed by the, City of Elizabeth City's designated representative the pipe shall be supported on a concrete cradle or encased in concrete. The concrete shall have just enough water to make it workable. Total compensation to the Contractor shall be one and one-half times the cost of the concrete delivered by truck.

07. PIPELINE CONSTRUCTION (SEWER FORCE MAIN): NOT USED.

08. METHOD OF MEASUREMENT AND PAYMENT:

See Bid Form Definitions.

CITY OF ELIZABETH CITY
SANITARY SEWER CONTRACT DOCUMENTS
SPECIAL PROVISIONS

01. COMPLETION TIME:

NOT USED

02. LIQUIDATED DAMAGES:

Should the Contractor exceed the time limitations as set forth above, liquidated damages shall be assessed against the Contractor at the rate of \$500.00 per day. In addition, the Contractor will be responsible for additional inspection costs incurred by the Owner for the time by which the contract is exceeded.

03. MEETINGS:

Within twenty days after the Contract Times start to run, but before any Work at the site is started, a pre-construction conference attended by the Contractor, City of Elizabeth City, Owner, and others as appropriate will be held to establish schedules and procedures for Shop Drawings and other submittals, processing Applications for Payment and maintaining required records.

04. EXISTING SITE CONDITIONS:

The Contractor shall satisfy himself as to the existing site conditions prior to bidding the project. The Contractor shall be responsible for maintaining a workable site condition during the execution of this contract.

05. SURFACE AND SUBSURFACE CONDITIONS:

No subsurface investigation has been done on this project. If the Contractor wishes to dig test holes for this project, they shall contact City of Elizabeth City **prior to digging** to coordinate this effort and to verify the location of the test holes. The Contractor shall be responsible for all well pointing due to high water table and shall include in his bid consideration for well pointing in the cost per linear foot of sewer main pipe. The Contractor shall be responsible for the removal of all unsuitable materials encountered on the job and shall include in his bid consideration for the removal of unsuitable materials in the cost per linear foot of sewer main pipe. No separate payment for well pointing will be made. No separate payment for removal of unsuitable materials shall be made.

06. HOURS OF OPERATION:

The Contractor between 8:00 am and 5:00 pm may perform work Monday – Friday. Alternative hours of operation may be established with the advance approval of City of Elizabeth City.

07. PIPE MATERIAL:

NOT USED.

08. PIPE JOINTS:

All pipe joints shall use a rubber gasketed system.

09. PIPE SEPARATION:

The following minimum pipe separations will be maintained: 12 inches vertical separation between crossing of sanitary sewer and storm sewers, 18 inches vertical separation between crossing of sanitary sewer (including force main) and water main, and 10 feet horizontal separation between sanitary sewer (including force main) and water mains. If these separations cannot be maintained, ductile iron pipe will be used 10 feet either side of crossing and along entire length of line less than 10 horizontal feet or 18" vertical separation from water mains. The Contractor shall receive approval from the City of Elizabeth City in the field before payment will be made at the ductile iron prices.

10. PIPE BEDDING:

D.I.P. for Gravity Sewers: When using D.I.P. for Gravity Sewers, stone should only be used in areas that are wet or there is standing water. When wet areas are encountered, the pipe shall be laid on a 4" stone base and the stone shall continue as backfill to 1/2 dia. of the pipe. The contractor shall be responsible for any additional stone required to stabilize the bedding of the pipe to be installed. **The payment of stone shall not be paid directly but be included in the line item for D.I.P. pipe installation as shown in the Schedule of Bid Items.**

SDR 26 PVC: When using SDR 26 PVC gravity sewer, the pipe shall be laid on a 4" stone or gravel base unless otherwise advised by the City of Elizabeth City's project representative. The stone shall continue as backfill to 1/2 diameter of the pipe. The contractor shall be responsible for any additional stone required to stabilize the bedding of the pipe to be installed. **All stone for bedding shall be considered incidental to project costs and included in the unit price item for pipe installation.**

The fact that a gravel base is specified for the proposed sanitary sewer pipe shall in no circumstance relieve the Contractor from the use of an appropriate well point system for dewatering purposes. Well points will be required when the existing groundwater table is above the flow line of the proposed pipeline. Cost for well points shall be considered incidental to project costs and included in the unit item price for pipe installation.

If the Contractor desires to use stone for his convenience, for dewatering or any other purpose when not approved by the City of Elizabeth City, it will be considered an incidental part of construction and will not be paid for directly.

11. TESTING:

The City of Elizabeth City's representative will be present at all tests.

12. INFILTRATION/EXFILTRATION TESTING:

Will be strictly measured by methods prescribed by the City of Elizabeth City on all manholes and sections of pipe and new services during construction and before the line is in service. The pipe will be required to meet the 100-gallon per inch/mile/24 hours of infiltration until the time the line is placed in service.

13. MANHOLES:

The Owner shall require that all of the manholes installed in this project be vacuum tested for infiltration. Each manhole shall be tested after assembly, **prior to backfilling**. All lift holes and pipe entrances shall be plugged and braced as necessary. A vacuum of 10-inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for which it takes the vacuum to drop to 9-inches of mercury. The manhole shall be approved as passing the test if the time is greater than the values shown below:

<u>Manhole Depth</u>	<u>Diameter of Manhole</u>		
	<u>48"</u>	<u>60"</u>	<u>72"</u>
Less than 10'	60 sec	75 sec	90 sec
10' - 15'	75 sec	90 sec	105 sec
15' - 25'	90 sec	105 sec	120 sec

If the manhole fails the initial test, necessary repairs shall be made with an approved non-shrink grout or other approved sealant. Re-testing shall continue until the manhole satisfactorily passes the test. All tests shall be performed in the presence of the Owner and/or the City of Elizabeth City representative. The Contractor will furnish all personnel, facilities, and equipment necessary to conduct the testing.

14. GRAVITY SEWER LINES:

Testing of gravity sewer lines shall be performed according to the manufacturer's recommended procedures for "Air Testing". The duration allowed for a prescribed low-pressure air exfiltration pressure drop between two consecutive manholes shall not be less than that shown in the table below or as specified by the manufacturer. If conflicting information exists, the more stringent of the two shall take precedence. The allowable pressure drop shall not exceed 0.5 psi from 3.5 psi to 3.0 psi in excess of ground water pressure above the top of the sewer.

During air testing, manholes shall be plugged with inflatable stoppers to plug all pipe entrances being tested. Lines shall be tested completely including service connections.

Minimum Duration for Air Test Pressure Drop

Pipe Size (Inches)	Time (Minutes)
4	2.5
6	4.0
8	5.0
10	6.5
12	7.5
15	9.5

15. SEEDING AND RESTORATION:

The Contractor shall be responsible for all required seeding, fertilizing and restoration of the job site to the satisfaction of the NCDOT and City of Elizabeth City. **All disturbed areas within NCDOT right-of-ways shall be seeded with NCDOT certified seed. The Contractor shall provide the City of Elizabeth City NCDOT Certified Seed Tickets prior to installation. No seeding shall take place until the disturbed areas have been limed and fertilized as per the plans and approved by the City of Elizabeth City. The Contractor shall be responsible for watering seeded areas as per the plans. See plans for Seed Bed Preparation methods.** Any and all areas disturbed outside of the designated limits shall be at the Contractor's expense.

16. DAMAGE TO LANDSCAPING AND STRUCTURES:

Any damage to existing landscaping (fences, trees, shrubs, catch basins, etc.) shall be replaced to original or better condition by the Contractor at no additional cost to the Owner unless the Owner directs otherwise.

17. DISPOSAL OF UNSUITABLE MATERIALS:

If unsuitable material is encountered during construction, the Contractor is required to remove and dispose of the material at no additional cost to the Owner.

18. DUCTILE IRON PIPE FOR SEWER LINES:

Contractor shall be responsible to provide all fittings or couplings necessary to connect PVC pipe to ductile iron pipe needed within this Project. This work shall be considered an incidental part of construction and will not be paid for directly.

19. INSTALLATION WITHIN NCDOT RIGHTS-OF-WAY:

All work performed within North Carolina Department of Transportation rights-of-way shall be performed in strict accordance with the NCDOT Construction and Maintenance Operations Supplement to the Manual on Uniform Traffic Control Devices. The Contractor shall be responsible for performing the work and adhering to the Right-of-Way Encroachment Contract Special Provisions.

In addition to the 100% Performance and Payment Bonds required by the Owner, the North Carolina Department of Transportation might require an additional Performance Bond for

the project. This bond shall be obtained prior to beginning construction. The successful low bidder shall check with the District Engineer's office before furnishing the bond in order to assure the bond is executed in the proper manner.

20. REMOVAL OF EXISTING ASPHALT AND CONCRETE:

The Contractor shall sawcut existing asphalt and concrete in a workmanlike manner. **Pavement breakers driven by air compressors are not acceptable for cutting asphalt.** The Contractor is responsible for the removal and disposal of the existing asphalt and concrete. Following the installation of the sewer line and acceptable compaction of backfill, the Contractor shall install 6-inches of compacted aggregate base within the trenches. Paving and/or concrete repair shall occur within five days of the installation, but not until the subgrade has been properly backfilled and compacted. In areas where concrete is present in the roadways, the concrete shall be formed and replaced to match existing.

21. VIDEO TAPING:

The Contractor is required to videotape all areas to be disturbed prior to start of construction. The City of Elizabeth City shall review the videotape to make sure the project has been properly covered. If the City of Elizabeth City deems it necessary, the Contractor shall re-videotape areas at no additional cost to the Owner. The completed tapes shall be given to the City of Elizabeth City and become its property. The City of Elizabeth City may also videotape areas of concern as a backup.

22. DAMAGE TO EXISTING UTILITIES:

The Contractor shall be responsible for contacting the Owner to accurately determine the location of the water mains, water services and sewer force mains within the project area. The Contractor shall take extreme caution in excavating around the service lines and mains while working within the project area. Any damage to the mains or service lines shall be the responsibility of the Contractor.

23. DAMAGE TO EXISTING CULVERTS:

The Contractor shall remove and replace existing culverts and drainage structures as necessary during the construction of the sewer lines. No separate payment will be made for the removal and replacement of culverts. This should be included in the line item for sewer line construction.

24. ADJUSTMENT OF MANHOLE RIM ELEVATIONS:

All manhole rims inside NCDOT and City of Elizabeth City right-of-ways shall be adjusted to existing grade or as directed by the City of Elizabeth City prior to project completion. These adjustments shall be considered incidental to project costs and included in the unit price for manholes.

25. SEDIMENTATION AND EROSION CONTROL:

The Contractor is instructed to control sedimentation run-off with methods approved by the City of Elizabeth City during the course of construction of this project. The Contractor is

reminded that all work shall meet all applicable requirements of the rules and regulations of Erosion and Sedimentation control as published by the Department of Natural Resources and Community Development, North Carolina Sedimentation Control Commission. The Contractor shall be required to obtain written closeout from the Land Quality Section-NCDENR, where applicable.

The Contractor shall implement the sediment and erosion control measures indicated on the project drawings. The cost for these measures shall be paid for directly and shall be included in the schedule of bid items.

26. COMPACTION OF TRENCHES:

All trenches shall be compacted to 98% density. The Contractor shall be required to meet ASTM T99 modified (volumetric “Balloon Method”) testing as required by the NCDOT on all roadway shoulders and under all asphalt to be replaced on NCDOT roadways. If required by the NCDOT, the Contractor shall have a Testing Lab approved by NCDOT perform the tests and all required tests shall be at no additional cost to the owner. A Engineer’s Representative shall witness any required testing. All trenches for road cuts will be compacted by mechanical means. **The North Carolina Department of Transportation – Encroachment Agreement and Special Provisions shall be included at the end of these Specifications and shall be adhered to.**

27. AS-BUILT DRAWINGS AND SPECIFICATIONS AT THE JOB SITE:

The Contractor shall maintain, in readable condition at the job site, one complete set of working drawings and specifications for his work, including all shop drawings. Such drawings and specifications shall be available for use by the Owner or his representative at all times. This set shall be marked or noted acceptable to the City of Elizabeth City, in order to reflect as-built conditions. The changes indicating such conditions shall be kept current at all times. As-built drawings shall be furnished to the City of Elizabeth City at the end of each pay period. **No payment will be made in that billing cycle until As-Built drawings are approved by the City of Elizabeth City/owner, a sufficient number of drawings will be provided to accommodate this process.** The As-Built drawings shall include but not be limited to distances of the force mains from the edge of pavement, distances from at least three reference points for main line valves (i.e. power poles, intersections, drainage structures, edge of pavement, property corners, etc...). Fittings shall also be included in the As-Built drawings and shall be located to at least two reference points.

28. SAFETY PLAN:

The contractor will be required to submit a construction “Safety Plan” that has been formally adopted by the Contractor. This “Safety Plan” must address all aspects of construction and shall be strictly adhered to. The “Safety Plan” submitted should be revised to adhere to any OSHA comments. The “Safety Plan” must be approved prior to commencement of work.

29. WATER FOR PRESSURE FLUSHING & TESTING:

The Contractor will not be charged for water used for pressure testing if this water comes from the City of Elizabeth City water system.

30. TAXES:

The Contractor shall provide the Owner with a list of all reimbursable taxes paid during the specified pay request period, and this list shall be submitted to the owner in a summary form as detailed in the General Conditions along with each pay request. Taxes shall be included in the bid prices.

31. DISPOSAL OF SPOIL:

The Contractor shall be responsible for the disposals of all spoil material (blast or unclassified). Contractor is urged to have spoil tested for positive reuse within the project. Reuse will be subject to City of Elizabeth City's approval. Reusable topsoil or fill material will remain the property of the City of Elizabeth City.

32. OSHA:

Contractor shall comply with all pertinent and applicable OSHA requirements.

33. ALTERNATE BID EQUIPMENT:

The project equipment shown on the plans and in the specifications uses the manufacturer's listed or equal. Should the Contractor elect to bid "or equal" equipment from the base bid the proposal shall include all necessary changes to the plans and specifications for a complete installation. The changes should address equipment placement and anchoring, structural, electrical and piping. All "or equal" equipment must be submitted to the Engineer no later than 14 days prior to the opening of bids. The Engineer will review the submission and respond in writing regarding the determination no later than 7 days prior to the opening of bids. All "or equals" shall be by addenda 7 days prior to receipt of bids.

34. ALTERNATE BID ITEMS:

The Owner reserves the right to substitute for or add to the Items listed in the Base Bid Schedule of Bid items with the Alternate Bid Items.

35. SEQUENCE OF CONSTRUCTION:

Contractor shall contact NCDOT, Division of Land Quality, Owners of all underground utilities located in project area and the City of Elizabeth City to inform that construction is about to begin. Contractor shall install all on site erosion control measures and ask for an onsite inspection prior to beginning land-disturbing activity. Contractor shall install all utilities according to plans and specifications and coordinate the connection to the existing sewer mains with City of Elizabeth City. Contractor shall call for a final inspection with the NCDOT, Division of Land Quality, City of Elizabeth City, and Owner.

36. DETECTABLE TAPE:

A detectable tape for protection of underground sewer lines shall be used for the sewer force main. The tape shall be an inert, bonded layer plastic with a metallized foil core and shall be highly resistant to alkalis, acid, or other destructive chemical components likely to be encountered in soil. The tape shall be brightly colored to contrast with soil and shall bear an

imprint identifying the type of line buried below. The tape shall be minimum of 2 inches wide.

The tape shall be buried a maximum of 12 inches below the ground surface directly above the sewer line with printed side up. The Contractor shall take necessary precaution to insure that the tape is not pulled, distorted or otherwise misplaced in completing the trench backfill. The tape shall be Terra Tape as manufactured by Griffolyn Co., Inc. or an Owner approved equal.

Compensation paid to the Contractor for detectable tape shall not be a separate pay item but shall be absorbed in the appropriate unit prices and/or lump sum prices of items in the proposal.

37. DAMAGE TO EXISTING CURB AND GUTTER:

The Contractor shall remove and replace existing curb and gutter as necessary during the construction of the sewer lines. The Contractor, at no additional cost to the Owner, shall replace any damage to the existing curb and gutter. The Owner shall only pay for the replacement of existing curb and gutter as per the Plans, Specifications and Special Provisions. The payment shall be deemed incidental and the price shall be included in the applicable unit price item shown on the Bid Form.

38. FIELD-BUILT MANHOLES:

All manholes are to be pre-cast. **“NO FIELD-BUILT MANHOLES”**. The Contractor shall have the option to use pre-cast or field built inverts in the proposed manholes.

39. METHOD OF MEASUREMENT AND PAYMENT

Payment shall be made based on the quantities installed on the itemized bid form of the lowest responsible bidder. The Method of Measurement and Payment shall describe each item on the bid form as well as the incidental items to be included in the itemized contract bid submitted.

1. The quantities to be paid for under this section shall be the actual number of feet of sanitary sewer pipe installed at varying depths and classes of pipe and actual number of feet of Force Main installed. The length shall be measured from the beginning of the pipe to the end of the line, including distances through intermediate manholes, except where crosslines are constructed, and in such cases, the distance through the manhole will be measured only. The following shall be considered incidental items; include, in the unit bid price for the installation of the sanitary sewer main as per the Bid Form:

- a. Rock excavation or blasting and removal from the site. Soil conditions shall be unclassified. All necessary dewatering required for pipe installation. All unsuitable materials that have to be removed from site.
- b. All stone bedding for PVC and D.I.P. sewer pipe installation.
- c. All necessary traffic control including additional labor for that purpose.

- d. Hourly charges for stabilizing electric poles or guy wire replacement.
- e. Parking and storage areas outside of the General Utility Easement for where the Contractor shall negotiate with the landowner for permission to park equipment and store materials.
- f. Repair or replacement of any damaged landscaping, culverts, mailboxes, road signs etc. This shall not include culverts that are in poor condition and in a direct path of the excavated trench and need to be replaced in order to establish proper drainage. City of Elizabeth City must approve culverts in poor condition that need to be replaced prior to installation.
- g. The Contractor shall pay for all construction stakeouts with the exception of reference points which in the City of Elizabeth City's judgment are necessary for the CONTRACTOR to proceed with the Work.
- h. Repair costs for any damaged underground utility that has been clearly marked in accordance with No Cuts Policy. The Contractor shall be responsible for having all underground utilities located prior to construction.
- i. Proper dewatering, traffic control, compaction of backfill and shoring of trenches.

2. 4' Diameter Manholes – Work shall include all equipment, labor and materials necessary for the completely operational installation of a 4' Diameter Manhole installed at varying depths as per the Plans, Specifications and Special Provisions. Unit price shall include all precast or poured invert, rubber boots, seal rings, adjustment rings, grout, bolts etc. Additional manhole components such as substituting Watertight and Ring and Lids, Doghouse Manholes, and Vent Pipes shall include all work as stated above and included in the itemized Bid Form.

3. 4' Diameter Manholes with Outside Drop Inlets – Work shall include all equipment, labor and materials necessary for the installation of Outside Drop Inlets installed as per the Plans, Specifications and Special Provisions. The quantities to be paid for under this section shall be the actual number of inlets installed at varying depths and shall include all work as stated above and included in the itemized Bid Form.

4. Connection to Existing or New Manholes – Work shall include all equipment, labor and materials necessary for the connection as per the Plans, Specifications and Special Provisions. Unit Price shall include all drilling, rubber boots, seal rings, adjustment rings, bolts, etc.

5. Substituting Water Tight Manhole Ring and Cover – shall only include the additional cost of supplying and installing the watertight ring and cover above the cost of the ring and cover included in the unit price item for 4' Dia. Manholes.

6. 4" and 6" Sewer Service Laterals: - Sewer service laterals shall include all special fittings required for direct connection to the new sewer main, plus all required couplings, bends, adapters, primers, pipe and glue needed for extension of piping.

Contractor shall provide boring equipment, piping and labor for installation under roadways. Cleanouts shall be installed where shown on plans. Sewer service laterals shall include all asphalt, curb and gutter and gravel replacement along with seeding and mulching where services are bored under roadways and as required for their proper installation. All necessary labor, equipment and incidental items listed above shall be included in the itemized unit price bid for this item.

7. Erosion Control Devices – Work shall include all equipment, labor and materials necessary for the completely operational installation of the required erosion control devices as per the Plans, Specifications and Special Provisions.

8. Special Construction

a. Select Fill:

This pay item will not be paid for unless authorized by the Engineer. This pay item is to be utilized in special areas where the excavated material is not suitable for proper backfill. This item will be paid by the cubic yard with a maximum paid trench width of 3' by the depth installed. Contractor will be required to submit load tickets for this item. The unit price for this item includes material, labor, installation, traffic control, proper compaction, hauling and other incidentals required in furnishing select fill material.

9. Testing : Work shall include all equipment, labor and materials necessary for the air testing of the proposed sanitary sewers and force mains and vacuum testing of the proposed manholes in accordance with the Plans, Specifications and Special Provisions. Testing costs shall be included in the cost per the Bid Form Unit Items.

MANHOLE REHABILITATION SPECIFICATION

PART 1 – GENERAL

- 1.01** These specifications include requirements to provide a system for manhole rehabilitation that includes lining the manhole interiors, internal sealing of the frame-chimney joint area, and reconstructing manhole benches and channels. It is the Contractor's responsibility to stop all active leaks in association with the lining of the manhole interiors.
- 1.02** All manholes that are indicated to be rehabilitation on the Construction Drawings require a coating system for internal manhole rehabilitation that includes structural repairs, infiltration control, and coatings the manhole interiors, as required or directed by the Engineer.
- 1.03** This work shall include the furnishing of all materials, equipment, tools, and labor as required for the rehabilitation of the manhole/structures shown on the Contract Drawings.
- 1.04** Rehabilitation products shall be applied to the manhole from the cover seat to and including the benches. Each system must provide a non-prorated warranty as herein described in manholes to stop infiltration, prohibit root intrusion, protect the existing structure from further deterioration, and provide a surface lining resistant to sewer system gases and chemicals.
- 1.05 SAFETY**
- A. Contractor shall ensure public safety and worker safety during progress of the rehabilitation work.
 - B. Contractor shall use employees who are properly trained and who are aware of possible work, materials, and job site related hazards.
 - C. It shall be the responsibility of the Contractor to provide adequate measures to protect pedestrian and vehicular traffic on streets. Signals and barricades shall conform to requirements of federal, state and local laws, rules, regulations, precautions, orders and decrees.
 - D. Contractor shall report to the ENGINEER any condition that may pose a threat to the health and welfare of the project inspectors, contractor's employees, or the general public.
 - E. Provide proper ventilation and personal protective equipment as required to ensure worker safety. Perform work in adherence to statutes of appropriate local, state, and federal health and labor laws, including OSHA confined space entry requirements, and fall protection where applicable.
 - F. Contractor shall have available on the job-site current manufacturer's Material Safety Data Sheets.
 - G. Contractor shall keep the working area clean, safe, appropriately barricaded, and properly lighted.
 - H. Contractor shall ensure waste material is properly disposed in accordance with applicable regulations and safety precautions.

1.05 CONTRACTOR EXPERIENCE

The Contractor for the manhole rehabilitation must have a minimum of 3 years of

experience using the proposed product in at least 500 manholes. 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.

1.06 PRODUCT EXPERIENCE

The product proposed for the rehabilitation of sanitary manholes shall have been in use for a minimum of five (5) years.

1.07 DESIGN PARAMETERS

The following design conditions shall be assumed for all manholes/ structures being rehabilitated as part of this project:

<u>Condition</u>	<u>Assumption</u>
Structure Condition:	Fully Deteriorated
Soil Type:	Saturated
Soil Load:	120 lbs/cubic foot
Traffic Load:	AASHTO HS-20 Highway
Soil Modulus:	700 PSI
Safety Factor:	2.0
Soil Cover:	Distance from Grade to Structure Invert
Water Table:	Distance from Grade to Structure Invert

1.08 SUBMITTALS

After the notice for award of the Project contract, the Contractor shall submit the items listed below for review and approval prior to initiating the project. These items may be submitted prior to the notice to proceed for review and approval. The Contractor shall also make every effort to submit all of the manhole rehabilitation submittals together. The project shall not be initiated until all of the listed information has been reviewed and approved by the ENGINEER:

- A. A report outlining the process to be used in the rehabilitation of the manholes. The report shall also include information specific to the job, such as schedule, coordination issues, access routes, bypass pumping, timing, traffic control in accordance with NCDOT and local jurisdictional requirements, and manufacturer' s installation instructions.
- B. Samples of all materials proposed shall be provided for approval from the ENGINEER prior to initiation of the Work. The samples shall be accompanied by the manufacturer's sworn certification that components and products will be manufactured in accordance with specified reference standards for components and products.
- C. Drawings and/or technical information on all major items of materials and equipment required to complete the project.
- D. Letter identifying the crew members performing the 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 specific project.
- E. Calculations sealed by a professional engineer supporting recommended liner thicknesses or wall coverage thicknesses.

- F. Independent test reports showing that the physical properties of the proposed systems meet the requirements of these specifications and the requirements published in manufacturer's literature.
- G All measurements made by the Contractor to verify manhole elevations and diameters, prior to ordering of material.
- H. Manufacturer's published literature and published data for the proposed manhole rehabilitation system.
- I. The manufacturer's certification that the proposed 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 the Contract Documents.
- J. Daily reports that contain the following information: substrate conditions, ambient conditions, application procedures, work completed and location thereof. As appropriate, mark-up drawings that show location of work.
- K. Lining system
 - 1. Manufacturer's current printed recommendations and product data sheets for all lining system products including lining manufacturer's specifications, installation recommendations, catalog data, illustrations/detail drawings, surface preparation and applications, storage requirements, curing, including recoat times and conditions, volatile organic compound data, and safety requirements.
 - 2. Material Safety Data Sheets (MSDS) for any materials brought on-site including all materials including solvents, abrasive blast media or any other materials intended to be used.
 - 3. Storage requirements including temperature, humidity, and ventilation for all materials.
 - 4. Letter(s) signed by the lining system manufacturer certifying that submitted products are suitable for application on the surfaces to be treated and for the service conditions.
- L. Manhole Patching/Leveling Mix with Lining System manufacturer approval
- M. Manhole Infiltration Control Mix with Lining System manufacturer approval
- N. Manhole Grouting Mix with Lining System manufacturer approval
- O. Internal Manhole Frame Seals and/or Sealants: Prior to substantial completion and before final acceptance, the Contractor shall provide to the OWNER "Manhole Protective Coating Post Installation Certification" form provided by OWNER after apparent low bidder procurement.
- P. Product Installation History: The product proposed for the rehabilitation of sanitary manholes shall have been in use for a minimum of five (5) years.

PART 2 -PRODUCTS AND APPLICATION EQUIPMENT

- 2.01** Contractor may use the following products in conjunction with the liner/coating material to facilitate manhole rehabilitation. Material compatibility of the products must be confirmed prior to commencement of work.
- A. Patching Mix/Leveling Course: Repair products shall be used to fill voids, bug holes, and/or smooth transitions between components prior to the installation of the lining product(s). Resurfacing products shall be used to fill large voids, lost mortar in masonry structures, smooth deteriorated surfaces, and rebuild severely deteriorated structures. The following products may be accepted and approved as compatible repair and resurfacing products:

1. 100% solids, solvent free epoxy grout specifically formulated for top coating compatibility. The grout manufacturer shall furnish instructions for trowel and/or spray application and for approved top coating procedures.
 2. Factory blended, rapid setting, high early strength, fiber reinforced, non-shrink cementitious repair mortar that can be trowelled or pneumatically spray applied may be approved if it is specifically formulated to be suitable for top coating with the selected lining system. Project specific submittals should be provided including application, cure time, and surface preparation procedures which permit optimum bond strength with the approved lining system.
- B. Infiltration Control Mix: A rapid-setting cementitious product specifically formulated for leak control shall be used to stop minor water infiltration and shall be mixed and applied according to manufacturer's recommendations. The product shall be approved for use by the selected lining system manufacturer. The product shall have the following minimum requirements:

<u>Test</u>	<u>Property</u>	<u>Result</u>	
ASTM-C109	Compressive-Strength	1 day	2000 PSI
		7 days	3500 PSI
		28 days	4500 PSI
ASTM-C109	Tensile-Strength	1 day	175 PSI
		7 days	250 PSI
		28 days	350 PSI
ASTM-C321	Bond Strength	1 day	85 PSI
ASTM-C666	Freeze Durability-Thaw	100 cycles	No Loss
ASTM-C157	Shrinkage		0%

C. Grouting Mix:

1. Grout referred to herein, refers to a specific grout, and is not be confused with grout listed with HRPDC RCS Section 200. The grout for infiltration prevention and the filling of voids shall conform to the properties listed within Specification 02738.
2. Cementitious grout shall be used for stopping very active infiltration and filling voids and shall be mixed and applied according to manufacturer's recommendations. The cementitious grout shall be volume stable and have a minimum 28-day compressive strength of 250 psi and a one (1) day strength of 50 psi. The product shall be approved for use by the lining system manufacturer.
3. Chemical grouts may be used for stopping very active infiltration and shall be mixed and applied per manufacturer's recommendations. When selecting the chemical grout the Contractor shall consider effects from groundwater table fluctuations. The product shall be approved for use by the lining system manufacturer.
4. The water reactive, chemical polyurethane grouts used shall be one of the following materials:
 - a. AV – 100 by AVANTI International of Webster, Texas
 - b. Sealforam NF by DeNeef of Houston, Texas
 - c. No. F-370 Hydroactive Urethane Grout by Sauereisen of Pittsburgh, Pennsylvania

D. Water:

Water shall be clean and potable. Questionable water shall be tested by a testing

laboratory in accordance with ASTM C-94. Potable water need not be tested.

2.02 EPOXY LINING SYSTEM

A. Manufacturer

1. Sauereisen
16 Gamma Drive
Pittsburg, PA 15238

2. Tnemec Company, Incorporated
6800 Corporate Drive
Kansas City, MO 64120

3. Warren Environmental, Inc.
P.O. Box 1206
Carver, MA 02330

4. Raven Lining Systems
13105 East 61st Street, Suite A
Broken Arrow, OK 74012

5. The Sherwin-Williams Company
101 W. Prospect Avenue
Cleveland, OH 44115

B. The lining system and lining system thickness requirements are as follows:

Manufacturer	Minimum Lining/ Thickness (Mils-DFT)	Glaze (Finish) Coat
Sauereisen	210 - SewerGard Applied @ 125.0	SewerGard - No. 210GL Spray or Roller Applied @ 20.0 – 25.0
Tnemec	Series 434 Perma-Shield Applied @ 125.0	Series 435 Perma-Glaze Spray or Roller Applied @ 20.0 – 25.0
Raven	Raven 405 Applied @ 125.0	
Warren	M 301 Applied @ 125.0	
Sherwin-Williams	Duraplate 5900 @ 125.0	

- C. The monolithic lining system shall be continuously bonded to all brick, mortar, concrete, chemical sealant, grout, pipe, and other surfaces inside the manhole according to ASTM D4541 testing.
- D. When cured, the system shall form a continuous tight-fitting, hard, impermeable surfacing that is suitable for sewer system service and chemically resistant to any

- chemicals, bacteria or vapors normally found in domestic or industrial sewer.
- E. The system shall effectively seal the interior surface of the manhole and prevent any penetration or leakage of groundwater infiltration.
 - F. The system shall be compatible with the thermal conditions of the existing sewer manhole structure.
 - G. Protective Lining Application Equipment: Manufacturer approved heated plural component spray equipment shall be used in the application of the specified protective lining.

2.03 MANHOLE FRAME AND COVER

All manholes that are being rehabilitated shall receive new watertight frames and covers.

- A. Castings shall meet or exceed ASTM A-48-76 Class 30-B.
- B. Frame and cover shall be able to withstand an H-20 loading.
- C. All watertight frame and covers shall conform to the standard detail Manhole Frame and Cover – Watertight, and shall be installed according to the manufacturer’s recommendations.

2.04 MANHOLE FRAME SEALANT

Manhole frame sealant shall be S.S.I. Flex-Seal, or equal, and shall be composed of a corrosion resistant aromatic flexible urethane resin coating to be applied over the entire chimney area, including the frame joint and the area above the cone including all grade adjustments.

- A. The Aromatic Urethane Resin Liner Primer shall have the following minimum requirements:

<u>Test</u>	<u>Property</u>	<u>Results</u>
ASTM-D-1004	Tear Resistance	210 lb. 1/in.
ASTM-D-903	Adhesive Strength	400 lb. 1/ in.
ASTM-D-412	Tensile Strength	3200 PSI
ASTM-D-442	Elongation	400%
ASTM-D-2240	Hardness	85

- B. The Aromatic Urethane Resin Liner Final Coat shall have the following minimum requirements:

<u>Test</u>	<u>Property</u>	<u>Results</u>
ASTM-D-1004	Tear Resistance	155 lb. 1/in.
ASTM-D-903	Adhesive Strength	175 lb. 1/ in.
ASTM-D-412	Tensile Strength	1,150 PSI
ASTM-D-442	Elongation	800%
ASTM-D-2240	Hardness	75

Part 3 – EXECUTION

- 3.01** Prior to performance of the actual work carefully inspect the entire site and locate those manholes designated to be rehabilitated.

3.02 EVALUATION OF ATMOSPHERE

Prior to entering structures, an evaluation of the atmosphere shall be conducted by the Contractor to determine the presence of toxic, flammable vapors, or possible lack of

oxygen. The evaluation shall be in accordance with local, state, and/or federal safety regulations. The Contractor shall conduct operations in accordance with applicable OSHA standards, including those involving entry into a confined space. The Contractor shall make suitable precautions to eliminate hazards to personnel near construction site when pressurized air is being used.

3.03 FLOW CONTROL

When required for acceptable completion of manhole rehabilitation, the Contractor shall provide for adequate bypass pumping.

3.04 All materials shall be delivered to the job site in the manufacturer's original sealed containers that bear identifying labels. All materials shall be used in strict accordance with the sealers, coatings, liners and equipment manufacturer's printed directions.

3.05 REHABILITATION OF MANHOLE INTERIOR

- A. Described are procedures for manhole preparation, cleaning, application, and testing. The applicator, approved and trained by the manufacturer, shall furnish all labor, equipment and materials for applying a liner/coating with machinery specially designed for the application. All aspects of the installation shall be in accordance with the manufacturer's recommendations and with the following specifications which include:
 - 1. Elimination of active infiltration prior to the application.
 - 2. Removal of loose and unsound material and cleaning surfaces.
 - 3. Repair and sealing of the invert and benches.
 - 4. Spray application to form a liner
 - 5. Install frame seal or sealant
- B. Place covers over invert to prevent extraneous material from entering the sewer lines.
- C. Throughout the entire surface preparation process, any nearby installations, equipment, vehicles, structures, etc. shall be protected from the grit and dust.
- D. All foreign material including but not limited to corrosion products, loose concrete, and other debris, shall be removed from the manhole wall and bench, leaving clean substrate with a minimal concrete surface profile of CSP5 in accordance with ICRI 0372. Removal shall be accomplished by utilizing a high-pressure water spray (minimum and maximum pressures are 4,000 to 7,000 PSI, respectively). Should this be insufficient to remove surface impurities, abrasive blasting shall be performed. An environmentally acceptable detergent may be used in conjunction with the water blast as long as it is thoroughly rinsed out with fresh water after application. Compatibility of detergent with lining system shall be verified by the lining manufacturer prior to application.
- E. Loose and protruding brick, mortar, and concrete shall be removed using a mason's hammer and chisel and/or scraper.
- F. Concrete or brick to be coated shall be prepared by fresh water or abrasive blasting using properly graded, clean, sharp angular abrasive blast media to produce a sound surface, with no evidence of lath, loose concrete contaminants or debris, and shall display a surface profile suitable for lining. Previously applied linings, if any, shall be completely removed during abrasive blasting operations.
- G. Prior to application of the lining, all apparent leaks in structural section joints around pipe penetrations, minor cracks or leaks in other areas of the structure, shall be plugged or repaired with an approved patching mix, or infiltration control mix in accordance with this Specification. Major cracks or leaks shall be plugged or repaired with an approved chemical grout that is compatible with the liner in accordance with this

- Specification. The patching mix, infiltration control mix, and chemical grout shall be mixed and applied per the manufacturer's recommendations. Any excessive cavities in wall area and around pipe penetrations shall be filled with an approved patching mix or chemical grout. Remove all protruding pipe ends no longer in use after approval is obtained from OWNER. Remove all excess expansion joint material prior to application of lining system. Pressure grouting of active leaks using water reactive polyurethane grouts is an approved method for stopping inflow and infiltration into manholes.
- H. Iron pipe surfaces shall be dry abrasive blast cleaned to a "near white" condition per SSPC SP-10, with a minimum 1.5 to 2.5 mil surface profile or anchor pattern. Cleaned pipe surfaces shall not exhibit any evidence of flash rust prior to lining system application.
 - I. Remove all manhole steps entirely (minimum one inch recess) and restore surfaces before applying linings.
 - J. All masonry surfaces will be washed to clean blast dust out of the pores of the brick or cement substrate.
 - K. Structure walls will be sprayed with a chlorine solution to kill any bacteria growth in the substrate and rinsed just prior to the application of the lining. If chlorine is used the substrate shall be neutralized until the appropriate pH levels are obtained.
 - L. Prior to rehabilitation, the manhole wall surfaces shall be tested for pH and excessive moisture. The surface pH of the concrete must be a minimum of 8.0 prior to liner application as measured using pH indicators in accordance with ASTM D4262. Excessive moisture testing in concrete using the Plastic Sheet Test in accordance with ASTM D42363 is required. If condensation is indicated under the sheet, the substrate is too wet to coat, and Documentation of the pH readings shall be furnished to the ENGINEER for each manhole.
 - M. Areas of manholes that are found to be structurally damaged and in need of repair beyond the scope of this specification shall be brought to the attention of the ENGINEER. A suitable repair method shall be developed for each area and submitted to the ENGINEER for review prior to commencing the repair.
 - N. Any bench, channel, or service line repairs shall be made at this time using the quick - setting patching mix, and shall be used per the manufacturer's recommendations.
 - O. Invert Repair: 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 patch mix shall be applied to the invert in an expeditious manner. 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 applied. The finished invert surfaces shall be smooth and free of ridges. For manholes with rehabilitated mainlines, the inverts shall be re-shaped to provide a smooth and continuous flow line.
 - P. Manhole benches and inverts shall be prepared and cleaned in the same manner as prescribed above. Benches are required to be raised to the top of the pipe, forming a "U" channel through the manhole and provide sufficient slope to make benches self-cleaning when benches must be modified. Rebuilding of bench and invert shall be in accordance with the City of Elizabeth City's details and standards.
 - Q. Prior to lining system application onto walls, manhole bench area shall be covered with plywood sections, which conform to the internal dimensions of the manhole, to prevent accumulation of coating/liner material on bench. No application shall be made to frozen surfaces or if freezing is expected to occur inside the manhole within 24 hours after application. If ambient temperatures are in excess of 95 °F, precautions shall be taken

- to keep the mix temperature at time of application below 90 °F. Mix water temperature shall not exceed 85 °F. Chill with ice if necessary.
- R. Prior to rehabilitation, a system to capture and remove cleaning material from the manhole without entry into the flow line is required, and is part of the required report, as indicated in Section 1.08, of this Specification.
 - S. The installation of the approved lining system shall be in strict accordance with the manufacturer's written instruction. This shall include re-grouting all steps, inlet and outlet lines, and benches as needed, plus the preparation, installation, curing, and finish operation, for the completion of the rehabilitation process.
 - 1. Prior to application of lining systems, contractor shall apply a leveling course that shall be troweled to a smooth finish before curing of the mortar material.
 - 2. Bench Application: The plywood covers shall be removed and the bench sprayed with the approved lining system such that a gradual slope is produced from the walls to the edge of the bench with the thickness at the edge of the bench being no less than 1/2, inch. The wall bench intersection shall be rounded to a uniform radius.
 - 3. The Contractor shall take precautions to keep overspray or excess material from entering the newly installed liner pipe and any other pipes in the manhole.
 - 4. A permanent identification number and date of work shall be affixed to the structure in a readily visible location.

3.06 MANHOLE FRAME AND SEALING

The manhole frame and the chimney above the cone on all manholes rehabilitated with protective coatings shall be sealed In accordance with the manufacturer's recommendations.

- A. Manhole Frame Sealant:
 - 1. The Contractor shall be certified by the sealant manufacturer.
 - 2. The ring adjustment area and the lower 3 inches on the casting frame and top 3 inches of the cone/slab shall be prepared in accordance with the manufacturer's instructions.
 - 3. Internal Application:
 - a. The adjustment ring area under the casting shall receive a thickened flexible urethane to achieve a minimum thickness of 120 mils.
 - b. The liner shall be applied by spray, brush, or trowel 3 inches above the bottom of the frame, and shall cover the entire adjustment ring area to 3 inches below the bottom adjustment ring.

3.07 MANHOLE BENCH/ CHANNEL RECONSTRUCTION

- A. Repairs shall be performed on all benches/channels with visible damage or infiltration.
- B. The Contractor shall construct the manhole channel with smooth semicircular bottoms matching the inside diameters of the connecting sewers. Change directions of flow with a smooth curve of as large a radius as the manhole size will permit. Change size and grade of channels gradually and evenly. Channels may be formed directly in the concrete manhole bottom, made of channel pipe, laid in concrete, or constructed by laying full section sewer pipe through the manhole and breaking out the top half when the surrounding concrete has hardened.
- C. Manhole floors outside the channels shall be smooth and shall have a slope between 2 and 4 inches per foot toward the channels.
- D. Prior to initiating base reconstruction efforts, clean manhole bases and with high-

pressure water blast, as detailed in Section 3.05, D, within this Specification. Loose materials, including spalled or broken concrete shall be removed and resulting surface made suitable for bonding to new manhole base. Solid debris resulting from cleaning operation shall be removed from manhole prior to reconstruction. The Contractor shall remove existing channel obstructions where shown on the Contract Drawings or as directed by the OWNER based on actual field conditions.

- E. Mortar shall be used to build up deteriorated base and channel to original elevations or to effect a smooth transition between incoming and outgoing pipes. Bricks may be used to build-up the manhole base if desired.
- F. Sewage released into the manhole shall be in a controlled fashion without surcharging or flooding onto the new bench.

3.08 INSPECTION AND QUALITY CONTROL

- A. The OWNER or ENGINEER shall have the right to inspect work at all times. Lining Systems shall be inspected and approved by a Third Party NACE Level III Coating Inspector provided by the OWNER shall be present during the performance of work. The Contractor shall provide the Third Party inspector any additional documentation, measurements, certifications as requested by the Third Party. Failure of the OWNER or ENGINEER'S to provide inspection services does not relieve the Contractor of his responsibility to perform the work in accordance with the Contract Documents.
- B. A representative from the lining system manufacturer shall perform site visits throughout the course of the surface preparation, resurfacing a lining application at a minimum frequency as follows:
 - 1. To inspect a representative example of surface preparation, including detail treatment.
 - 2. To inspect a representative example of resurfacing material application.
 - 3. To inspect a representative example of lining application.
 - 4. To inspect a representative example of finish coat (topcoat) application.

3.09 CLEAN-UP AND DISPOSAL

- A. The Contractor shall not allow waste or debris to accumulate. He shall have it removed from the job site at frequent intervals.
- B. The applicator shall be trained and certified by the manufacturer for the handling, mixing, application, and inspection of the liner system.
- C. The Contractor shall complete and submit to the ENGINEER the "Manhole Protective Coating Post Installation Certification" included in Appendix C for each manhole receiving a protective lining.

3.11 TESTING AND INSPECTION

The following testing and inspection shall be performed by the Contractor during and after manhole rehabilitation as applicable.

- A. During lining application, a wet film thickness gage meeting ASTM 0-4414, Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gages, shall be used to ensure a monolithic lining and uniform thickness during application. Wet film thickness shall be checked at least once for every 10 square feet of surface area to be lined. If wet film thickness testing cannot

be conducted on the rehabilitated manhole, the Contractor shall note that with the manhole rehabilitation product shop drawing submittals and provide an alternate test method for review and approval by the OWNER at no additional cost to the project.

- B. At the direction of the OWNER or ENGINEER, the Contractor may be directed to verify lining thickness at any random point of the new interior surface. Any areas found to be thinner than minimum tolerances shall immediately receive additional material, and be done at the Contractor's expense.
- C. Measurement of bond strength of the protective lining to the substrate shall be measured in accordance with ASTM D-4541 and documented by photographs. One (1) test shall be performed at a minimum unless any areas detected to have inadequate bond strength shall be evaluated by the ENGINEER. Further bond tests may be performed in that area to determine the extent of potentially deficient bonded areas, and repairs shall be made by the Contractor in strict accordance with the manufacturer's recommendations at no additional cost to the OWNER.
- D. The completed lining in each manhole or junction chamber shall pass High Voltage Holiday Testing in strict accordance with NACE RP0188. The testing shall be performed over 100 percent of the lined surfaces (100 volts D.C. per 1 mil of lining thickness shall be used for the instrument). All holidays or pinholes shall be repaired and the lining surfaces retested until a pinhole free lining has been achieved. Additional testing and repairs to defective linings shall be at no additional cost to the OWNER.
- E. Verify absence of leaks and pinholes. Contractor to furnish appropriate level of lighting to aid in this inspection. Special attention will be made to the interface between the host pipe and rehabilitated pipes in the manholes. If a water tightness test cannot be conducted on the rehabilitated manhole, the Contractor shall note that with the manhole rehabilitation product shop drawing submittals and provide an alternate test method for review and approval by the OWNER at no additional cost to the project.
- F. If a post-rehabilitation testing is not provided, the Contractor will not receive compensation for the manhole rehabilitation tasks.

3.12 WARRANTY

- A. The lining system shall have the following warranty standards: have a five-year labor and materials, non-prorated warranty to stop infiltration and further deterioration of the structure.
 - 1. Contractor's Warranty:

For a period of five (5) years from the date of substantial completion, the Contractor warrants to the OWNER that the lining installation work provided under this specification Section, conforms to these specifications and is free from defects in materials and workmanship. The Contractor shall repair or replace, at the sole option of and at no cost to the OWNER, any work found to be defective within said warranty period. Such repair or replacement shall include the cost of removal, reinstallation, are bypass.
 - 2. Manufacturer's Warranty:

The Contractor shall obtain from the manufacturer its warranty that the lining system products will be free from defects in design, materials, and workmanship for a period of five (5) years following substantial completion. Said warranty, containing no exclusions or limitations, shall be in a form

acceptable to, and for the benefit of, the OWNER and shall be submitted by the Contractor as a condition of final payment.

3. Follow-Up Inspection:

An annual follow-up inspection will be conducted following 12 months of service after acceptance of the lining work. A Contractor's representative and a representative of the lining system manufacturer shall attend this follow-up inspection. Any defects identified during this inspection and subsequent inspections conducted during the warranty period will be repaired by the Contractor in accordance with the performance guarantee at no additional cost to the OWNER.

- B. The manufacturer shall warrant that the products are produced in conformity with its standard specifications or formulations within recognized tolerances, free of adulteration or contamination, and that the product will perform in accordance with representations in the manufacturer's literature and technical data sheets when properly applied in strict conformance with the printed instructions on container and prescribed in technical data instructions and when applied to a properly prepared surface.

3.13 FINAL ACCEPTANCE

- A. The OWNER reserves the right to inspect the rehabilitated manholes during the warranty period. Any leakage or defects in the work found by visual inspection or water tightness testing shall be corrected by the Contractor in accordance with the Contract Documents.
- B. Prior to the expiration of the warranty period, the OWNER. The OWNER will schedule the inspection and notify the ENGINEER and Contractor of the scheduled inspection should they desire to participate in the inspection.

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