



We are **TRU** to our customers!

Bid Documents
For
Long Creek WWTP Plant Sewer
Project No. SRP~W~134~0191

P.O. Box 1748
Gastonia, NC 28053
(704) 854-6668

**CITY OF GASTONIA
DEVELOPMENT SERVICES
INVITATION TO BID**

Mailed sealed proposals will be received by the City of Gastonia, N.C. in the office of the Lolita Roseboro, Project Administrator, 1300 N Broad Street, Gastonia, NC 28054. Hand delivered sealed proposals will be received in **Multipurpose Room 100** of the **Municipal Operations Center Building, 1300 N Broad Street, Gastonia, NC 28054** until **2:00 PM, TUESDAY, FEBRUARY 24, 2026** at which time and place all bids will then be publicly opened and all bid prices read aloud for the following:

**LONG CREEK WWTP SEWER
PROJECT NO. SRP-W-134-0191**

An optional pre-bid conference will be held at **2:00 PM** on **MONDAY, FEBRUARY 16, 2026** at the **Long Creek WWTP, 3000 Old Spencer Mountain Rd. Dallas, NC 28034**.

Bidders must be a licensed contractor in the State of North Carolina. Subject to the provisions of the State of North Carolina Contractor's Licensing Law, it will be necessary for the contractor to place his contractor's license number on the envelope containing his bid.

No bid shall be considered or accepted by the City of Gastonia unless at the time of its filing the same shall be accompanied by a deposit of cash or certified check on some bank or trust company insured by the Federal Deposit Insurance Corporation in an amount equal to not less than five percent (5%) of the proposal. In lieu of making the cash deposit, bidder may file a bid bond executed by a corporate surety licensed under the laws of North Carolina to execute such bonds, conditioned that the surety will, upon demand forthwith make payment to the obligee upon said bond if the bidder fails to execute the contract in accordance with the bid bond. This deposit shall be retained if the successful bidder fails to execute the contract within ten (10) days after the award or fails to give satisfactory surety as required herein.

The successful bidder shall be required to enter into a contract with the City of Gastonia in writing and shall be required to furnish bond from some surety company authorized to do business in the State of North Carolina, make deposit of money, certified check, or government sureties for the full amount of said contract for the faithful performance of the terms of said contract as required by Section 143-129 of the General Statutes of North Carolina.

The Issuing Office for the Bidding Documents is: Duncan Parnell. Prospective Bidders may examine the Bidding Documents at any time via their bid room at <https://bidroom.duncan-parnell.com/>.

Bidding Documents may be viewed online and ordered by registering with the Issuing Office at <https://bidroom.duncan-parnell.com/>. Following registration, complete sets of Bidding Documents may be purchased and downloaded from the Issuing Office's website as "zipped" portable document format (PDF) files. The cost of printed Bidding Documents from the Issuing Office will depend on the number and size of the Drawings and Project Manual, applicable taxes, and shipping method selected by the prospective Bidder. Cost of Bidding Documents and shipping is non-refundable. 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 Bidder's date of receipt of the Bidding Documents. Partial sets of the Bidding Documents will not be available from the Issuing Office.

A set of the City of Gastonia Standard Specifications and Standard Details may be obtained free of charge on the City's website <https://www.gastonianc.gov/city-specifications-standard-details/city-specifications.html>. The City of Gastonia Standard Specifications and City of Gastonia Standard Details shall apply to this project.

No bid shall be withdrawn after the opening of bids without the consent of the City of Gastonia, for a period of sixty (60) days after the scheduled time of closing bids. The Bid securities of all bidders, except those submitted with the three (3) lowest acceptable proposals, will be returned within fifteen (15) days after the time of opening the bids. The bid security accompanying the three lowest acceptable proposals may be held by the City of Gastonia, North Carolina, until a construction contract has been executed and a satisfactory Performance Bond in the sum of the full amount of the contract has been delivered to the City of Gastonia.

Each bid should be accompanied by a letter from the bidder's insurance representative certifying that said insurer has read the insurance requirements as set forth in the General Conditions of the contract and will issue the required policies if awarded a contract.

The award of any contract will be made by the City of Gastonia, North Carolina, to the lowest responsive, responsible bidder. Responsible bidder will be defined as one who furnishes satisfactory evidence that he has the requisite experience and ability and that he has sufficient capital, facilities, and plant to enable him to perform the work successfully and promptly, and to complete the work within the time specified in the contract documents. At a minimum, responsible bidder shall be appropriately licensed by the State of North Carolina, have provided the required bid bond, have the capability of meeting bonding and insurance requirements, and be in compliance with Federal, State, and local laws and regulations applicable to the project.

The City of Gastonia reserves the right to reject any proposal for failure to comply with all requirements of this notice or of any of the contract documents; however, it may waive any minor defects or informalities at its discretion. The City of Gastonia further reserves the right to reject all proposals or award a contract which, in its judgment, is in the best interest of the City.

Envelopes containing bids shall be marked as follows:

**LONG CREEK WWTP SEWER
PROJECT NO. SRP-W-134-0191**

Your Company's Address
License Number

TO: CITY OF GASTONIA
Post Office Box 1748
Gastonia, North Carolina 28053-1748

Attention: Lolita Roseboro, Project Administrator

Bids on the **LONG CREEK WWTP SEWER
PROJECT NO. SRP-W-134-0191**

Bid Opening: **2:00 PM, TUESDAY, FEBRUARY 24, 2025**

Municipal Operations Center
Multipurpose Room 100
1300 N. Broad Street
Gastonia, NC 28054

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Instructions to Bidders

CITY OF GASTONIA
INSTRUCTIONS TO BIDDERS

Section 1.01 - Explanation to Bidders:

Any explanation regarding the meaning or interpretation of any contract, drawings, specifications or other Contract Documents must be requested in writing at least seven (7) days before the scheduled bid opening in order to allow sufficient time for receipt of reply before the time of bid opening. Any such explanations or interpretations shall be made in the form of addenda to the documents and shall be furnished to all bidders, who shall acknowledge all addenda with their bids. Oral explanations and interpretations made prior to the bid opening shall not be binding.

It is the responsibility of each bidder to insure that they have received all addenda issued by the City and that such addenda are acknowledged as part of the bid submitted.

Section 1.02 - Examination of Site:

Each bidder by making this bid represents that they have visited the site and are familiar with all the conditions under which the work is to be performed. No extra compensation will be allowed by reason of any matters or things concerning which the bidder did not inform them self prior to bidding.

Section 1.03 - Easements and Permits:

- A. Should portions of the improvements under this project be constructed on private property, the Owner will secure easements. Work performed on, or use of such easements, shall be subject to the provisions of the easement agreements on file and open to inspection in the office of the Owner.
- B. The Contractor shall maintain construction operations within the presently existing road right-of-way and the established easements throughout the project. In the event that the Contractor deems it necessary or advisable to operate beyond the limits of the existing right-of-way and established easement, they shall be responsible for making special agreements with the property owners. Immediately after an award of contract is made, the Contractor shall submit to the Owner a listing of those areas in which the deem it to be necessary to work outside of the road right-of-way or easements. The listing shall be subject to the approval of the Owner and as construction areas are secured by the Contractor, copies of all written agreements shall be placed on file with the Owner.

Section 1.04 - Examination of Bidding Documents:

Each bidder by making a bid represents that they have read and understands the bidding documents. The bidder shall include in the bid prices any and all costs that may be necessary to complete the work in accordance with the requirements of the Contract Documents.

Section 1.05 - Subsurface Exploration Data:

Bidders are advised that any additional borings, explorations, and observations desired to determine soil and ground water conditions are to be conducted at their expense. Bidders making their own borings, explorations and observations to determine soil and ground water conditions shall obtain permission from the property owner and/or appropriate regulatory agency prior to commencing borings.

Bidders are advised that construction of portions of this project may occur in areas of high groundwater and dewatering may be required. Bidders should thoroughly investigate and familiarize themselves with the conditions of the project site. The Owner will in no way entertain any claim from the Contractor for additional costs related to high groundwater or dewatering during construction of the project.

Section 1.06 - Interpretation of Contract Documents:

Questions regarding documents, discrepancies, omissions, or intent of the specifications of drawings shall be submitted in writing to the owner through the Engineer prior to the date specified in the Invitation to Bid to provide time for issuing and forwarding an addendum. Any interpretation of the Contract Documents will be made only by addendum duly issued by the Owner to each person receiving a set of documents. The Owner will not be responsible for any other explanations or interpretations of the Contract Documents.

Section 1.07 - Material Substitution:

Each bidder shall base the bid upon the materials and equipment as described in the bidding documents. The successful Contractor will not be allowed to make any substitutions on their own initiative, but in each instance will be required to obtain authorization from the Owner before installing any work in variance with the requirements of the Contract Documents.

Section 1.08 - Approximate Quantities:

On all items on which bids are to be received on a unit price basis, the quantities stated in the bid will not be used in establishing final payment due the Contractor. The quantities stated are approximate only. Bids will be compared on the basis of number of units stated in the bidding schedule. Payment on the Contract on unit price items will be based on the actual number of units installed in the completed work as defined in the Contract Documents.

Section 1.09 - Preparation of Bids:

- A. Bids are to be made out on the bid form included in this document or the bid will be considered non-responsive. If any portion of the bid is required to be given in unit prices and totals, the unit prices shall prevail, unless it clearly appears in Owner's opinion that the unit prices rather than the totals are in error. If a discrepancy exists between the total base bid and the true sum of the individual bid items, the true sum shall prevail. Each bid shall contain a price for each and every item named in the bidding schedule. Bidders are warned against making any erasures or alterations of any kind, and bids which contain omissions, erasures, conditions, alterations, or additions not called for may be rejected.
- B. Bids shall be submitted on the forms provided or copies thereof, and must be signed by the bidder or an authorized representative. Any corrections to entries made on bid forms should be initialed by the person signing the bid.
- C. Two copies of all Shop Drawings or catalog drawings showing brand name and catalog number of bid materials must be submitted by Contractor at least seven (7) days before the scheduled bid opening in order for materials desired to be considered for "or equal." (See Section 1.34 for further requirements when shop drawings are required.)
- D. Alternative bids will not be considered unless specifically called for elsewhere in these specifications.
- E. Bids must be in accordance with plans and specifications.
- F. Telegraphic bids will not be considered; however, modifications received in writing to bids already submitted will be allowed if received prior to the time fixed in the Invitation to Bid. Modifications shall be submitted as such, and shall not reveal the total amount of either the original or revised bids.
- G. No escalation clause will be considered in the bid proposals.
- H. Bidders must bid on all items in each section as shown in the Proposal. Any changes, interlineations,

erasures, modifications, or deletions in the Proposal not specified in the Contract Documents will make the Proposal irregular and subject to rejection.

Section 1.10 - Signing of Bid:

If the bidder is a corporation, the legal name of the corporation shall be set forth together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If bidder is a co-partnership, the true name of the firm shall be set forth together with the signatures of all the partners. If bidder is an individual, the signature shall be inscribed. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a power of attorney must be on file with the owner prior to opening bids or submitting bids; otherwise, the bid may be regarded as irregular.

Section 1.11 - Bid Security:

No bid will be considered unless accompanied by a bid security as defined in the Invitation to Bid, as a guarantee that if the bid is accepted the bidder will execute the agreement and file bonds and insurance as required by the Contract Documents within 10 days from the date of the award of the Contract.

Section 1.12 - Return of Bid Securities:

The security of the three lowest bidders will be returned after the execution of the agreement with the successful bidder and the approval of their bonds and insurance. The security of all other bidders will be returned promptly after the bids have been opened and reviewed by the Owner. If all bids are rejected, the securities will be returned at the time of rejection.

Section 1.13 - Agreement, Bonds, Insurance:

The attention of bidders is specifically directed to the forms of agreement and bonds to be executed and types of insurance to be taken out in the event a Contract award is made.

Section 1.14 - Designation of Subcontractors:

Each bidder shall list on the form included in these documents the names and addresses of all subcontractors who will perform work or labor or render service to the bidder on or about the construction site. Each bidder shall show on the form the portion of the work to be done by each subcontractor.

Section 1.15 - Bid Submittal:

Each bid, properly signed, together with the bid security and all documents bound herewith, shall be enclosed in a sealed envelope addressed and entitled as specified in the Invitation to Bid and delivered to the office designated in the Invitation to Bid. All addenda issued shall be acknowledged with the documents at the time of bid submittal.

Section 1.16 - Withdrawal of Bid:

Any bid may be withdrawn at any time prior to the hour fixed in the Invitation to Bid for the opening of bids, provided that a request in writing, executed by the bidder, or a duly authorized representative, for the withdrawal of such bid is filed with the Owner prior to the time specified for opening of bids. The withdrawal of a bid will not prejudice the right of a bidder to file a new bid. No bid can be withdrawn for a period of sixty (60) days after the scheduled closing time for the receipt of bids, and negligence on the part of the bidder in preparing the bid shall not constitute a right to withdraw the bid subsequent to such bid opening.

Section 1.17 - Qualifications of Bidders:

- A. It is the intention of the Owner to award a Contract only to a bidder who furnishes satisfactory evidence that they have the requisite experience and ability and that there is sufficient capital, facilities, and plant to enable them to prosecute the work successfully and promptly, and to complete the work within the time specified in the Contract Documents.

B. Each bidder shall submit with their bid the reference form contained in this document as well as, the executed bidder's qualifications, if applicable, and any other information required for this bid.

C. Each bidder shall also submit the following information as a part of the bid:

A letter from the bidder's insurance representative acknowledging the requirements of these specifications and its commitment to provide the coverage if awarded a Contract. The required coverage shall be provided by an insurance company having a policy holder's rating of Class A and a minimum Class 10 financial rating in the latest edition of "Best Insurance Guide."

D. The apparent three lowest bidders shall also submit to the owner within five days the following information if requested:

A certified copy of the most recent financial statement of the bidder. Any and all pending

litigation against the bidder.

Any NCDOT Prequalification requirements, if applicable to project.

Section 1.18 - Disqualification of Bidders:

More than one bid for the same work described in this document from an individual, firm or partnership, a corporation or an association under the same or different names, will not be considered. Reasonable grounds for believing that any bidder is interested in more than one bid for the work contemplated will cause the rejection of all bids in which such bidder is interested; provided however, that a party who has quoted prices to a bidder is not thereby disqualified from quoting prices to other bidders, or from submitting a direct bid on his own behalf. If there are reasonable grounds for believing that collusion exists among the bidders, the bids of the participants in such collusion will not be considered and shall be rejected.

Section 1.19 - Non-Collusion Affidavit and Iran Divestment Act Certification:

- (a) The attention of the bidder is directed to the requirement that a non-collusion affidavit completely executed by each qualified bidder shall be submitted as part of the bid. The form of affidavit is included in this Document.
- (b) The contractor certifies that it is not listed on the Final Divestment List created by the State Treasurer pursuant to N.C.G.S. 147-86.58. Contractor shall not utilize any subcontractor on the list.

Section 1.20 - Penalty for Collusion:

If at any time it shall be found that the person, firm, or corporation to whom the Contract has been awarded has, in presenting any bid or bids, colluded with any other party or parties, then the Contract so awarded shall be null and void, and the Contractor and his sureties shall be liable to the Owner for all loss or damage which the Owner may suffer thereby, and the Owner may advertise for new bids for said work.

Section 1.21 – E-Verify:

Contractor shall comply with the requirements of Article 2 of Chapter 64 of the General Statutes. Further, if Contractor utilizes a subcontractor, Contractor shall require the subcontractor to comply with the requirements of Article 2 of Chapter 64 of the General Statutes.

Section 1.22 - License:

Each bidder shall possess state and local licenses as are required by law, and shall furnish satisfactory proof to the Owner

that the licenses are in effect during the entire period of the Contract.

Section 1.23 - Bid Opening:

Bids will be opened and the prices bid will be read aloud publicly at the time and place indicated in the Invitation to Bid. Bidders or their agents are invited to be present. Bids shall be submitted prior to the time fixed in the Invitation to Bid. Bids received after the time so indicated shall be returned unopened.

Section 1.24 - Presence of Bidders at Opening:

At the time and place fixed for opening bids, the contents of all bids will be made public for the information of all bidders and other interested parties, who may be present in person or by representative. Attendance of the bidder or a representative at the bid opening is not mandatory.

Section 1.25 - Award of Contracts:

- A. The Contract shall be awarded by the City Council as soon as practicable after the bid opening, subject to the reservations contained in Paragraph 1.27 hereof.
- B. In case of error in the extension of prices, the unit bid price shall govern. The City of Gastonia reserves the right to waive any informality in bids at its discretion.
- C. The award of any Contract will be made to the lowest responsive responsible bidder. Failure to comply with the requirements of these Instructions to Bidders may lead to the bid being considered non-responsive. Owner reserves the right to waive irregularities or informalities at its discretion.

Section 1.26 - Acceptance or Rejection of Bids:

City reserves the right to accept or to reject in whole or in part any and all bids submitted. The City also reserves the right to accept or reject any and all phases, sections, or alternates of the bids submitted; however, it may waive any minor defects or informalities at its discretion.

If the City accepts less than the total of all bids submitted in the proposal, then the revised time allowed for completion shall be specified in the Notice to Proceed.

Section 1.27 - Contracts, Bonds, and Insurance:

- A. The bidder to whom the award is made shall enter into a written Contract with the City within the time specified in the Proposal.
- B. The bidder to whom the award is made shall be required to furnish a performance and payment bond by some surety company authorized to do business in the State of North Carolina or make a deposit of money, certified check, or government securities for the full amount of the Contract as required by GS 143-129 of the General Statutes of North Carolina. The Performance and Payment bond shall be 100% of the Total Bid and shall remain in full effect for a period of one (1) year after final acceptance by the City. The issuing of the final payment by the City shall not relieve the Contractor or the bonding company from any and all claims entered by the City prior to the issuing of such final payments, or as may become evident during the Warranty period.
- C. The successful bidder shall secure and maintain such insurance policies as are required by the City.

Section 1.28 - Effective Date of Award:

If a contract is awarded by the Owner, such award shall be effective when formal notice of such award, signed by the authorized representative of the Owner, has been delivered to the intended awardee, or mailed at the main business address shown on the bid, by some officer or agent of the Owner duly authorized to give such notice.

Section 1.29 - Execution of Agreement:

Three (3) copies of the Agreement shall be executed by the successful bidder, and returned, together with the required bonds and insurance, within 10 days from and after the date of the award of the Contract. Effective date of bonds shall be the same or later than the date of the Agreement.

Section 1.30 - Failure to Execute Agreement and File Bonds and Insurance:

Failure of a successful bidder to execute the Agreement and file required bonds and insurance within the required time shall be just cause for the annulment of the award. On failure of a successful bidder to execute the Agreement and file the required bonds and insurance within the required time, they shall forfeit bid security as agreed hereinbefore. Upon annulment of an award as aforesaid, the Owner may then award a Contract to the next lowest responsive, responsible bidder.

Section 1.31 - Commencement and Completion of Work:

The successful bidder shall commence work within (10) calendar days from and after the issuance by the Owner of a written Notice to Proceed and shall complete all work in accordance with the terms and conditions of the Contract Documents.

Section 1.32 - Materials Furnished by Contractor:

This Contract provides that the Contractor shall furnish all materials required to construct the proposed improvements.

Section 1.33 -Unclassified Excavation:

This Contract includes excavation on an unclassified basis. The cost of all excavation necessary for the installation of the sanitary sewers, force main, and appurtenances required under this Contract will be merged into the price per foot for pipe installed or appurtenances thereto. Excavation for roadway pavements shall be paid under the lump sum amount set forth in the proposal. Additional excavation beyond the limits shown by the Contract Documents and authorized by the Engineer shall be paid for under the unit price established for the undercut excavation.

Section 1.34 - Brand Names: (Shop Drawings):

Names of certain brands, makes or definite specifications are to denote quality standards of the articles desired, but do not restrict bidders to the specific brand, make or manufactured name; it is only to set forth and convey to the prospective bidders the general style, type, character and quality of the article desired.

The Contractor has the option of furnishing the specified product or of offering to furnish products equal in all respects to those specified. The Contractor shall submit two (2) copies of shop drawings for approval of an equal product by the City. These shop drawings must be submitted for approval by the time indicated in the Invitation to Bid for the pre-bid conference. An addendum will be issued for approved equal products. The decision as to equality then rests on the opinion of the City Engineer.

Section 1.35 - Delivery Point and Transportation Costs:

Delivery point shall be Gastonia, North Carolina. The bid price shall be the delivered price and shall include all transportation costs incurred in shipping the equipment and materials from the manufacturer to delivery point.

Section 1.36 - Federal, State and Local Taxes:

The contract price shall include applicable Federal, State and local taxes in effect on the contract date and any inconsistent language on the purchase order should be disregarded; however, any applicable sales or use tax shall be separately identified from the contract price on any invoice rendered. Pursuant to Section .1700, et.seq., of the North Carolina Administrative Code (Revenue Sales and Use Tax), should Purchaser be entitled by law to a refund from any tax included in the contract price, the amount received shall be paid to Purchaser and Vendor shall have no claim thereto.

Section 1.37 - Delivery Time:

The maximum time necessary for bidder to make delivery, from time of award or notification shall be as stated in Section 1.42. Failure to perform within the time specified in Section 1.42 shall subject the successful bidder to such charges as prescribed in the Contract or these specifications.

Section 1.38 - Corporate Surety Bond:

A corporate surety bond in the amounts specified in Section 1.27 will be required of the successful bidder to guarantee the faithful performance of work, according to the plans and specifications and Contract, which bond must be executed with the Contract and delivered to the City Clerk within ten (10) days after the award or else the bid deposit shall be forfeited to the City and shall be considered as liquidated damages. The bonding company shall be licensed to do business in the State of North Carolina. The Contractor may post as surety cash or certified check in lieu of a corporate surety bond.

Section 1.39 - Line and Grade Stakes:

The Engineer will provide the necessary line, offset, grade and reference stakes and bench marks and elevations prior to the Contractor's starting the work or any section of the work as may be agreed on beforehand between the Engineer and Contractor. Thereafter it shall be incumbent upon the Contractor to maintain the survey information required to carry out the work in accordance with the plans and specifications. In the event that stakes or bench marks are destroyed or moved for any reason and under any circumstances, it shall be the Contractor's obligation to restore such stakes under the supervision of the inspector. Any costs involved in restoring survey information, except the time of the inspector, shall be borne by the Contractor.

Section 1.40 - Warranty:

The successful bidder, as Contractor, must warrant to the City that all supplies and materials furnished under the original Contract and any supplemental orders will be free of defects and poor workmanship. In addition, Contractor shall be held responsible to the City for correcting any defects which may become evident in the work constructed under the terms of this Contract including the replacement of any pipe or any other appurtenant item due to faulty materials and/or workmanship for a period of one (1) year from date of acceptance of the work.

Section 1.41 - Bid Quantity and Increase in Quantity of Work:

Bidders shall base bid bond and bid price on the quantities listed on the Proposal. The City reserves the right to increase or decrease these quantities, either at the time the Contract is awarded, or at later dates by supplement orders during the time of this Contract.

Section 1.42 - Performance and Delivery Time:

Bid information must be submitted to and approved by NCDEQ before contracts can be awarded. After approval of the Contract by the Gastonia City Council, the Contractor (within ten (10) calendar days prior to the "Commence Work" date specified in the NOTICE TO PROCEED issued by the City Engineer) shall begin work as set forth in the plans, specifications, and Proposal. All work shall be completed in all events to the point of FINAL ACCEPTANCE by the date specified in the Notice to Proceed.

A. Time of the Essence

It is agreed that time is of the essence; and as a result, unless prevented by strikes, accidents, or other causes beyond the Contractor's control, the Contractor shall deliver the materials and perform the services, or both, as provided herein within the limits specified above. Failure of the Contractor to perform in the time specified above shall be deemed sufficient reason for default of the contract or forfeiture of the performance bond, or both.

B. Liquidated Damages:

Time is the essence of the contract. In the event the Contractor shall fail in the performance of the work specified and required to be performed within the time limit set forth in the Agreement, after due allowance for any extension or extensions of time made in accordance with provisions hereinbefore set forth, the Contractor shall be liable to the City, as liquidated damages and not as a penalty, in the amount of **\$500.00** for each and every calendar day that the Contractor shall be in default of completion. The City shall have the right to deduct the liquidated damages from any amount due, or that may become due the Contractor, or to collect the liquidated damages from the Contractor or its surety.

The above liquidated damages are for each calendar day from the date stipulated for completion in the NOTICE TO PROCEED until such work is satisfactorily completed and accepted in accordance with the terms of this agreement. This amount will be deducted from any monthly payment due the contractor by the City or collected from the sureties whichever is deemed expedient by the City.

The City Engineer may waive or make any adjustment to such portions of the Liquidated Damages as may occur after the work has been completed through the placing of the pavement or completion of the structure and to the extent that it is in condition for safe and convenient use by the traveling public.

- C. The period of time for completion set forth in the Agreement shall be extended in amount equal to time lost due to causes which could not have been foreseen or which were beyond the control of the Contractor, and which were not the result of his fault, negligence, or deliberate act. Extension of time for completion shall also be allowed for delays in the progress of work caused by any act or omission on the part of City or its employees, or by other Contractors employed by City, or delay due to an act of the Government, or for any delay in the furnishing of plans and necessary information by the Engineer, or for any other cause in the opinion of the Engineer entitling the Contractor to an extension of time. Strikes and labor disputes shall be cause for an extension of time. Weather shall not be considered as a cause for an extension of time.
- D. The Contractor shall notify the Engineer within fifteen (15) days of any occurrence which in the Contractor's opinion entitles them to an extension of time for completion. Such notice shall be in writing. The Engineer shall acknowledge in writing receipt or any such claim by the Contractor within five (5) days or its receipt.

Section 1.43 - Workers Compensation Insurance Required:

The Contractor will be required to carry Workers Compensation Insurance on those employed by the Contractor or the subcontractors on this work, according to the North Carolina State Law, and to furnish the City a Certificate to that effect at the time of the delivery of the signed Contract to the City.

Section 1.44 - Public Liability Insurance Required:

The Contractor shall be required to carry Public Liability Insurance to protect the Contractor and the City against the result of injuries caused to persons to the extent as stipulated in the General Conditions, and to furnish the City a Certificate evidencing the fact at the time of the delivery of the signed Contracts to the City.

Section 1.45 - Monthly and Final Payments:

The Contractor shall submit to the Project Administrator, City of Gastonia, Engineering Division, P.O. Box 1748, Gastonia, North Carolina on or before the 25th day of each month an invoice for all work done and for materials stored or stockpiled on the job site during the preceding month. The City Engineer shall verify all quantities and amount shown upon the invoice in accordance with Sections 2.56, 2.57, and 2.58 of the Standard Specifications and shall have a monthly estimate prepared based on the Contract unit prices showing all work performed and the value of materials stored or stockpiled on the job site to date under this Contract. Upon approval of the monthly estimate by the City Engineer the estimate shall be forwarded to the Finance Director for payment. Payment shall be made in accordance to the following terms within 30 days of the receipt of the approved invoice.

- A. Monthly or partial payments may be made once a month. Retainage for monthly or partial payments shall be determined as provided in N.C.G.S. 143-134.1. (A copy of N.C.G.S. 143-134.1 follows these instructions) The time and method of payment of any retainage withheld shall also be determined as provided in N.C.G.S. 143-134.1
- B. Final payment shall be made within thirty (30) days of completion of all work specified in this Contract and the acceptance of this work by the City Engineer. Final payment shall be based on the Contract unit price and the quantity on each item as finally determined by the City Engineer through field measurements and investigations.

Section 1.46 - Standard Specifications and Standard Drawings:

The City of Gastonia "Standard Specifications" and "Standard Details" booklets are hereby incorporated by reference and made a part of this Contract. All work, materials, or services provided under this Contract shall be in accordance to "Standard Specifications" and "Standard Details" unless excepted in the Project Plans, Project Specifications, or Special Provisions.

Section 1.47 - Progress Report and Construction Schedule:

The Contractor shall be required to submit a proposed Construction Schedule on or before the Construction start date. The schedule will include an itemized account of construction activities planned, on a week by week basis, for each month throughout the duration of the Project Contract Period. A Flow Chart, detailing Construction Activities and Durations using the Critical Path Method (CPM) is suggested for Project Evaluation, although a conventional Bar Chart will be accepted as a means of conveyance of Project Progress.

In the event multiple projects are included in the contract, each shall be completed prior to the start of another. The same work force shall not be assigned sparsely to simultaneously pursue multiple projects. So as not to arbitrarily interfere with the contractor's scheduling, the contractor may submit a schedule indicating the manpower and equipment to be used on multiple projects in consecutive order. To secure the City Engineer's approval, the contractor must show that the schedule will not allow for any intervening intervals of idle, non-productive time on either Project(s) considered for multiple construction starts.

In addition to the above requirement, a Running Progress Report will be required of the Contractor. This should be of the same format as the Construction Schedule and will indicate Actual Project Completion as compared with the Proposed Schedule. The Contractor shall submit the Progress Report each month with an invoice for payment. Failure to comply with this requirement may be considered grounds to hold up any monthly payment due the Contractor.

Section 1.48 - Subcontractors:

The Contractor shall, as soon as practicable after the award of the Contract, notify the City Engineer in writing of the names and addresses of all subcontractors proposed for the work not designated in the proposal and shall employ only those subcontractors approved by the City Engineer.

The Contractor agrees that they are fully responsible to the City for the acts, works or omissions of its subcontractors and of persons either directly or indirectly employed by them to perform work under this contract. Nothing contained in the Contract Documents shall create any contractual relation between the City and any of the subcontractors employed by the Contractor.

The Contractor shall not sublet more than 45% of the work performed under this contract with the City.

Each bidder shall list on the form included in these documents the names and addresses of all subcontractors who will perform work, labor, or render service to the bidder on or about the construction site. Each bidder shall show on the form the portion of the work to be done by each subcontractor.

Section 1.49 - Competent Person, Certification by OSHA, etc.:

Prior to beginning construction, the Contractor shall designate a responsible member of the organization at the site whose duty shall be the prevention of accidents. This person shall meet all OSHA requirements, including but not limited to, certification as a Competent Person. This person shall be Contractor's superintendent unless otherwise designated in writing by Contractor to City, and shall be present at the job site during any and all construction activity.

All construction shall be in compliance with OSHA (P.L. 91-596) and the Contract Work Hours and Safety Standards Act (P.L. 91-54).

City reserves the right to immediately suspend all work at the job site without prior notice to Contractor after a determination is made by the City Engineer, or his designee, of non-compliance by Contractor with any contractual requirement or of a violation of any applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction, concerning the safety of persons or property, or concerning the protection of the same from damage, injury, or loss. In the event of an immediate suspension of work at the work site by City, Contractor waives any right to claim additional compensation for time lost and expenses incurred in correcting the non-compliance or violation, and further waives any claim for extension of time in which to complete the entire contract obligation.

When submitting your bid, please include the following forms, in the following order:

Bid Bond
Proposal
Non-Collusion Affidavit
E-Verify Affidavit
Experience of Bidder
Subcontractors List

NO STAPLES PLEASE

N.C.G.S.A. § 143-134.1



WEST'S NORTH CAROLINA GENERAL STATUTES ANNOTATED
CHAPTER 143. STATE DEPARTMENTS, INSTITUTIONS, AND COMMISSIONS
ARTICLE 8. PUBLIC CONTRACTS



§ 143-134.1. Interest on final payments due to prime contractors; payments to subcontractors

(a) On all public construction contracts which are let by a board or governing body of the State government or any political subdivision thereof, except contracts let by the Department of Transportation pursuant to [G.S. 136-28.1](#), the balance due prime contractors shall be paid in full within 45 days after respective prime contracts of the project have been accepted by the owner, certified by the architect, engineer or designer to be completed in accordance with terms of the plans and specifications, or occupied by the owner and used for the purpose for which the project was constructed, whichever occurs first. However, when the architect or consulting engineer in charge of the project determines that delay in completion of the project in accordance with terms of the plans and specifications is the fault of the contractor, the project may be occupied and used for the purposes for which it was constructed without payment of any interest on amounts withheld past the 45 day limit. No payment shall be delayed because of the failure of another prime contractor on the project to complete his contract. Should final payment to any prime contractor beyond the date the contracts have been certified to be completed by the designer or architect, accepted by the owner, or occupied by the owner and used for the purposes for which the project was constructed, be delayed by more than 45 days, the prime contractor shall be paid interest, beginning on the 46th day, at the rate of one percent (1%) per month or fraction thereof unless a lower rate is agreed upon on the unpaid balance as may be due. In addition to the above final payment provisions, periodic payments due a prime contractor during construction shall be paid in accordance with the provisions of this section and the payment provisions of the contract documents that do not conflict with this section, or the prime contractor shall be paid interest on any unpaid amount at the rate stipulated above for delayed final payments. The interest shall begin on the date the payment is due and continue until the date on which payment is made. The due date may be established by the terms of the contract. Funds for payment of the interest on state-owned projects shall be obtained from the current budget of the owning department, institution, or agency. Where a conditional acceptance of a contract exists, and where the owner is retaining a reasonable sum pending correction of the conditions, interest on the reasonable sum shall not apply.

(b) Within seven days of receipt by the prime contractor of each periodic or final payment, the prime contractor shall pay the subcontractor based on work completed or service provided under the subcontract. If any periodic or final payment to the subcontractor is delayed by more than seven days after receipt of periodic or final payment by the prime contractor, the prime contractor shall pay the subcontractor interest, beginning on the eighth day, at the rate of one percent (1%) per month or fraction thereof on the unpaid balance as may be due.

(b1) No retainage on periodic or final payments made by the owner or prime contractor shall be allowed on public construction contracts in which the total project costs are less than one hundred thousand dollars (\$100,000). Retainage on periodic or final payments on public construction contracts in which the total project costs are equal to or greater than one hundred thousand dollars (\$100,000) is allowed as follows:

N.C.G.S.A. § 143-134.1

- (1) The owner shall not retain more than five percent (5%) of any periodic payment due a prime contractor.
 - (2) When the project is fifty percent (50%) complete, the owner, with written consent of the surety, shall not retain any further retainage from periodic payments due the contractor if the contractor continues to perform satisfactorily and any nonconforming work identified in writing prior to that time by the architect, engineer, or owner has been corrected by the contractor and accepted by the architect, engineer, or owner. If the owner determines the contractor's performance is unsatisfactory, the owner may reinstate retainage for each subsequent periodic payment application as authorized in this subsection up to the maximum amount of five percent (5%). The project shall be deemed fifty percent (50%) complete when the contractor's gross project invoices, excluding the value of materials stored off-site, equal or exceed fifty percent (50%) of the value of the contract, except the value of materials stored on-site shall not exceed twenty percent (20%) of the contractor's gross project invoices for the purpose of determining whether the project is fifty percent (50%) complete.
 - (3) A subcontract on a contract governed by this section may include a provision for the retainage on periodic payments made by the prime contractor to the subcontractor. However, the percentage of the payment retained: (i) shall be paid to the subcontractor under the same terms and conditions as provided in subdivision (2) of this subsection and (ii) subject to subsection (b3) of this section, shall not exceed the percentage of retainage on payments made by the owner to the prime contractor. Subject to subsection (b3) of this section, any percentage of retainage on payments made by the prime contractor to the subcontractor that exceeds the percentage of retainage on payments made by the owner to the prime contractor shall be subject to interest to be paid by the prime contractor to the subcontractor at the rate of one percent (1%) per month or fraction thereof.
 - (4) Within 60 days after the submission of a pay request and one of the following occurs, as specified in the contract documents, the owner with written consent of the surety shall release to the contractor all retainage on payments held by the owner: (i) the owner receives a certificate of substantial completion from the architect, engineer, or designer in charge of the project; or (ii) the owner receives beneficial occupancy or use of the project. However, the owner may retain sufficient funds to secure completion of the project or corrections on any work. If the owner retains funds, the amount retained shall not exceed two and one-half times the estimated value of the work to be completed or corrected. Any reduction in the amount of the retainage on payments shall be with the consent of the contractor's surety.
 - (5) The existence of any third-party claims against the contractor or any additive change orders to the construction contract shall not be a basis for delaying the release of any retainage on payments.
- (b2) Full payment, less authorized deductions, shall also be made for those trades that have reached one hundred percent (100%) completion of their contract by or before the project is fifty percent (50%) complete if the contractor has performed satisfactorily. However, payment to the early finishing trades is contingent upon the owner's receipt of an approval or certification from the architect of record or applicable engineer that the work performed by the subcontractor is acceptable and in accordance with the contract documents. At that time, the owner shall reduce the retainage for such trades to five-tenths percent (0.5%) of the contract. Payments under this subsection shall be made no later than 60 days following receipt of the subcontractor's request or immediately upon receipt of the surety's consent, whichever occurs later. Early finishing trades under this subsection shall include structural steel, piling, caisson, and demolition. The early finishing trades for which line-item release of retained funds is required shall not be construed to prevent an owner or an owner's representative from identifying any other trades not listed in this subsection that are also allowed line-item release of retained funds. Should the owner or owner's representative identify any other trades to be afforded line-item release of retainage, the trade shall be listed in the original bid documents. Each bid document shall list the inspections required by the owner before accepting the work, and any financial information required by the owner to release payment to the trades, except the failure of the bid documents

N.C.G.S.A. § 143-134.1

to contain this information shall not obligate the owner to release the retainage if it has not received the required certification from the architect of record or applicable engineer.

(b3) Notwithstanding subdivisions (2) and (3) of subsection (b1) of this section, and subsection (b2) of this section, following fifty percent (50%) completion of the project, the owner shall be authorized to withhold additional retainage from a subsequent periodic payment, not to exceed five percent (5%) as set forth in subdivision (1) of subsection (b1) of this section, in order to allow the owner to retain two and one-half percent (2.5%) total retainage through the completion of the project. In the event that the owner elects to withhold additional retainage on any periodic payment subsequent to release of retainage pursuant to subsection (b2) of this section, the general contractor may also withhold from the subcontractors remaining on the project sufficient retainage to offset the additional retainage held by the owner, notwithstanding the actual percentage of retainage withheld by the owner of the project as a whole.

(b4) Neither the owner's nor contractor's release of retainage on payments as part of a payment in full on a line-item of work under subsection (b2) of this section shall affect any applicable warranties on work done by the contractor or subcontractor, and the warranties shall not begin to run any earlier than either the owner's receipt of a certificate of substantial completion from the architect, engineer, or designer in charge of the project or the owner receives beneficial occupancy.

(b5) The State or any political subdivision of the State may allow contractors to bid on bonded projects with and without retainage on payments.

(b6) Nothing in subsections (b1), (b2), (b3), and (b4) of this section shall operate to prevent any agency or any political subdivision of the State from complying with the requirements of a federal contract or grant when the requirements of the federal contract or grant conflict with subsections (b1), (b2), (b3), or (b4) of this section. Each bid document must specify when federal preemption of this section shall apply.

(c) Deleted by S.L. 2007-365, § 1, eff. Jan. 1, 2008.

(d) Nothing in this section shall prevent the prime contractor at the time of application and certification to the owner from withholding application and certification to the owner for payment to the subcontractor for unsatisfactory job progress; defective construction not remedied; disputed work; third party claims filed or reasonable evidence that claim will be filed; failure of subcontractor to make timely payments for labor, equipment, and materials; damage to prime contractor or another subcontractor; reasonable evidence that subcontract cannot be completed for the unpaid balance of the subcontract sum; or a reasonable amount for retainage not to exceed the initial percentage retained by the owner.

(e) Nothing in this section shall prevent the owner from withholding payment to the contractor in addition to the amounts authorized by this section for unsatisfactory job progress, defective construction not remedied, disputed work, or third-party claims filed against the owner or reasonable evidence that a third-party claim will be filed.

Current through S.L. 2007-552 (End) of the 2007 Regular and Extra Sessions.

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END OF DOCUMENT

Agreement between City and Contractor

STATE OF NORTH CAROLINA

COUNTY OF GASTON

A G R E E M E N T

THIS AGREEMENT, made effective on the _____ day of _____, 2025 by and between the CITY OF GASTONIA, a municipal corporation created and organized under and by virtue of the laws of the State of North Carolina, hereinafter called "City", party of the first part; and _____ hereinafter called "Contractor", party of the second part;

W I T N E S S E T H:

That the Contractor and City, for the considerations hereinafter named, agree as follows:

ARTICLE I. Scope of Work

(a) The Contractor hereby agrees to furnish all of the materials, equipment and labor necessary to perform all work and install all apparatus and material set forth in the Schedule of Work a copy of which is attached to and made a part of this agreement as Exhibit "A" in strict accordance with all requirements and provisions of all contract documents as defined in the General Conditions, a copy of which is attached to and made a part of this agreement as Exhibit "B"; the Specifications together with any special provisions, conditions, and requirements contained therein, including, but not limited to, large and small scale drawings, a copy of which is attached to and made a part of this agreement as Exhibit "C"; the Bid or the Proposal of the Contractor submitted pursuant to advertisement therefor a copy of which is attached to and made part of this agreement as Exhibit "D"; the Instructions to Bidders a copy of which is attached to and made a part of this agreement as Exhibit "E" and the forms attached to and made part of this agreement. It is the intention of the parties to this agreement that each and all of the above described Exhibits (Exhibit "A" through Exhibit "E") as well as the attached forms, be fully and completely incorporated by reference into this agreement as if fully herein set out; and it further is the intent of the parties, that by so incorporating these Exhibits unto this agreement that the parties be bound by and perform each and every requirement, provision (special or otherwise), condition, and covenant of each said Exhibit.

(b) In case of discrepancy or disagreement in the contract documents, the order of precedence shall be: form of Contract, change orders, notice to proceed, special provisions, Field Guidance by Engineer, small-scale drawings, large-scale drawings, standard specifications and details, large-scale drawings, proposal, general conditions, any other documentation.

ARTICLE II. Time for Work

The Contractor shall begin the work at the site within ten (10) calendar days as set forth in the notice to proceed issued by the City. The schedule of work and the rate of progress shall be such as, in the opinion of the City Engineer of Gastonia, North Carolina, hereinafter called "Engineer", are necessary for completing all work to be performed on or before the expiration of **three hundred sixty five (365) consecutive calendar days** from the date specified in the notice to proceed, with such intermediate contract completion times as are specified in the contract documents and with such extensions of time as are provided in Exhibit "B" entitled "General Conditions".

ARTICLE III. Payment

(a) City shall pay to the Contractor for the performance of the Contract a sum based upon the actual amount of completed work in place according to the unit prices established on Exhibit "A".

(b) The Contractor shall submit to the Project Administrator, City of Gastonia, Engineering Division, P.O. Box 1748, Gastonia, North Carolina, 28053, each month an invoice for all work completed and verified by the City, through the last day of the preceding month, and for materials stored or stockpiled on the job site during the preceding month. The City Engineer shall verify all quantities and amounts shown upon the invoice in accordance with the City Standard Specifications and shall have a monthly estimate prepared based upon the contract unit prices showing all work performed and the value of materials stored or stockpiled on the job site to date under this contract. Upon approval of the monthly estimate by the City Engineer, the estimate shall be forwarded to the Finance Director for payment in accordance with the subsequent paragraphs of this Article III.

(c) Monthly or partial payments may be made once a month. Retainage for monthly or partial payments shall be the maximum amount allowed by N.C.G.S. 143-134.1. The time and method of payment of any retainage withheld shall also be determined as provided in N.C.G.S. 143-134.1

(d) Upon receipt of written notice that the work is ready for final inspection and acceptance, the Engineer shall make such inspection; and when they find the work acceptable under the contract and the contract fully performed they will issue a final certificate, over their own signature, stating that the work required by this contract has been completed and is accepted by them under the terms and conditions thereof, and the money to be due the Contractor shall be paid to the Contractor by City upon receipt and processing of Contractor's invoice in accordance with Section 1.45 of the Instructions to Bidders, Exhibit "E".

(e) Before making any payment, City may require Contractor to submit evidence satisfactory to the Engineer that all payrolls, material bills, and other indebtedness connected with the work have been paid. Except that if payment of a disputed indebtedness or lien has not already been guaranteed by surety bond, the Contractor may submit in lieu of evidence of payment a surety bond satisfactory to City guaranteeing payment when finally adjudicated of all such disputed amounts.

(f) Receipt and Acceptance of Payment by the Contractor shall constitute a waiver of all claims by the Contractor except those made in writing and still unsettled; provided, however, that all such claims must be received by City prior to or at the time of receipt of Contractor's request for inspection; otherwise, said claim is waived.

ARTICLE IV. Federal, State and Local Taxes

The contract price shall include applicable Federal, State and local taxes in effect on the contract date; however, any applicable sales or use tax shall be separately identified from the contract price on any invoice rendered. Pursuant to Section .1700, et.seq., of the North Carolina Administrative Code (Revenue - Sales and Use Tax), should Purchaser be entitled by law to a refund from any tax included in the contract price, the amount received shall be paid to Purchaser and Vendor shall have no claim thereto.

ARTICLE V. Warranty

(a) The contractor warrants to the City that the materials and equipment furnished under the contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the work will be free from defects not inherent in the quality required or permitted, and that the work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the City, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

(b) If, within one year after the date of acceptance of the work, any of the work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the City to do so unless the City has previously given the Contractor a written acceptance of such condition. The obligations under this paragraph shall survive acceptance of the work under the Contract and its termination. The City shall give such notice promptly after discovery of any defective condition.

ARTICLE VI. Performance Bond

Contractor must furnish performance bond in the amount required in the General Conditions, Exhibit "B", on some surety company authorized to do business in this state conditioned on the faithful performance of the terms of this contract together with the special provisions, requirements, and conditions set forth in all Exhibits incorporated in this contract by reference; payable to City upon failure to meet any such term. Such bond will remain in force for the duration of this Contract. Instead of the bond, Contractor may deposit money, government securities, or a certified check on a bank or trust company authorized to do business in the State of North Carolina, in a like amount, payable to City to guarantee performance.

ARTICLE VII. General Assurance Clause

The City of Gastonia in accordance with the provisions of Title VI of the Civil Rights Act of 1964, United States Department of Transportation (DOT) Order 1050.2A, Title 49 Code of Federal Regulations (CFR) Part 21, the Civil Rights Restoration Act of 1987 and other pertinent nondiscrimination authorities hereby notifies its service providers and contractors that during the performance of this contract, the service provider or contractor for itself, its assignees and successors will assure that no person shall, on the ground of race, color, national origin, limited English Proficiency, income-level, sex, sexual orientation, age, or disability, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination or excluded from participating in any activity conducted under this contract.

ARTICLE VIII. Compliance with E-Verify Requirements

Contractor certifies that it is in compliance with all applicable provisions of Article 2, Chapter 64 of the North Carolina General Statutes, which generally provides that each employer, after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into.

Contractor agrees that during the term of this Agreement it shall comply and shall require all subcontractors to comply with any and all applicable provisions of Article 2, Chapter 64 of the North Carolina General Statutes, and Contractor agrees to incorporate in all further contracts or subcontracts for the Project a provision requiring compliance with Article 2, Chapter 64 of the North Carolina General Statutes.

ARTICLE IX. Iran Divestiture Act Compliance

As of the date of execution of this Agreement, the Contractor is not listed on the Final Divestment List created by the State Treasurer pursuant to N.C.G.S. 147-86.58. Contractor further certifies that it will not utilize any subcontractor on the list.

ARTICLE X. Merger Clause

This agreement contains the final, complete and exclusive statement of the agreement between the parties with respect to the transactions contemplated herein and all prior or contemporaneous written or oral agreements with respect to the subject matter hereof are merged herein.

ARTICLE XI. Amendments

No change, amendment, qualification or cancellation hereof shall be effective unless in writing and executed by each of the parties hereto by their duly authorized officers.

ARTICLE XII. Benefits and Binding Effect

This agreement shall be binding upon and shall insure to the benefit of the parties hereto and their respective successors and assigns.

ARTICLE XIII. Notices

All notices, requests and demands and other communications hereunder must be in writing and shall be deemed to have been duly given when personally delivered or when placed in the United States Mail and forwarded by Registered or Certified Mail, return receipt requested, postage prepaid, addressed to the party to whom such notice is being given at the following addresses:

AS TO THE CITY:

The City of Gastonia
Post Office Box 1748
Gastonia, NC 28053-1748

AS TO THE CONTRACTOR:

Any party may change the address(es) as to which notices to it are to be sent by giving the notice of such change to the other parties in accordance with this Section.

ARTICLE XIV. Captions

The captions are for convenience of reference only and shall not be construed as a part of this agreement.

ARTICLE XV. Governing Law & Forum

This Agreement shall be deemed to have been made in the State of North Carolina, and its validity, construction and effect shall be governed by the laws of the State of North Carolina. The parties hereto agree that any action brought by either party to enforce the terms of this Agreement shall be filed in the Superior Court of Gaston County, State of North Carolina.

Dispute Resolution. In addition to and prior to litigation, the parties shall endeavor to settle disputes first by negotiation between the parties, and, if negotiation is unsuccessful, then by non-binding mediation. Demand for mediation shall be filed in writing with the other party to this Agreement. A demand for mediation shall be made within a reasonable time after the claim, dispute or other matter in question has arisen. In no event shall the demand for mediation be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statute of repose or limitations. Each party hereto submits to the exclusive jurisdiction in the state and federal courts having jurisdiction in Gaston County, North Carolina and irrevocably waives any defenses to such venue including any defense based upon the principles of *forum non conveniens*.

ARTICLE XVI. Exhibits

All of the Exhibits referred to in this agreement are hereby incorporated herein by reference and shall be deemed and construed to be a part of this agreement for all purposes.

ARTICLE XVII. Severability

The invalidity or unenforceability of any one or more phrases, sentences, clauses or provisions of this agreement shall not affect the validity or enforceability of the remaining portions of this agreement or any part thereof.

ARTICLE XVIII. Counterparts

This agreement may be simultaneously executed in several counterparts, each of which so executed shall be deemed to be original, and such counterparts together shall constitute but one and the same instrument.

IN WITNESS WHEREOF, the parties hereto have executed this agreement, the day and year first above written.

(Corporate Seal)

ATTEST:

CITY OF GASTONIA

BY: _____

(Deputy) City Clerk

Mayor

STATE OF NORTH CAROLINA
COUNTY OF GASTON

I, _____, a Notary Public of the aforesaid County and State, do hereby certify that _____ personally appeared before me this day and acknowledged that he/she is the (Deputy) City Clerk of the City of Gastonia and that by authority duly given and as the act of the municipal corporation, the foregoing instrument was signed in its name by its Mayor, sealed with its corporate seal and attested by him/her as its (Deputy) City Clerk.

WITNESS my hand and Notarial Seal, this the _____ day of _____ 20 ____.

Notary Public

My Commission Expires: _____

CONTRACTOR

BY: _____
(Vice) President

(Corporate Seal)

ATTEST:

(Assistant) Secretary

STATE OF _____
COUNTY OF _____

I, _____, a Notary Public of the aforesaid County and State, do hereby certify that _____ personally appeared before me this day and acknowledged that he/she is (Assistant) Secretary of _____ and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its (Vice) President sealed with its corporate seal and attested by him/her as its (Assistant) Secretary.

WITNESS my hand and seal, this the _____ day of _____ 20____.

Notary Public

My Commission Expires: _____

General Conditions

THE CITY OF GASTONIA, NORTH CAROLINA

DEVELOPMENT SERVICES DEPARTMENT

GENERAL CONDITIONS

INDEX

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GENERAL CONDITIONS

Section 1 - Definitions

Wherever used in these General Conditions or in the other Contract Documents, the following terms shall have the meanings indicated which are applicable to both the singular and plural thereof:

City, the Contractor and the Engineer are those mentioned as such on the Agreement. They are treated throughout the Contract Documents as if each were of the singular number and masculine gender.

"City" The City of Gastonia, North Carolina.

"Engineer" The City Engineer of the City of Gastonia, acting personally or through any assistants or professional engineering firm duly authorized in writing for such act by the Engineer.

"Notice" All notices required to be given pursuant to this contract shall be written. Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered mail to the last business address known to him who gives notice.

"Subcontractor" A Subcontractor is an individual, firm, or corporation having a direct contract with Contractor or with any other Subcontractor for the performance as a part of work at the site and as employed herein includes only those having a direct contract with the Contractor. It includes one who furnishes material worked to a special design according to the plans and specifications of this work, but does not include one who merely furnishes material not so worked.

"Change Order" The term Change Order is a written order to Contractor signed by City Engineer authorizing an addition, deletion or revision in the work, or an adjustment in the Contract Price or the Contract Time issued after execution of the Agreement.

"Contract Documents" The Contract Documents consist of the Agreement, Schedules, Addenda (whether such schedules or Addenda are issued prior to the opening of Bids or the execution of the Agreement), Invitation to Bid, Instructions to Bidders, Contractor's Bid, the Bonds, the Notice of Award, the Notice to Proceed, these General Conditions, the Supplementary Conditions, the Specifications, Drawings and Modifications.

"Notice To Proceed" A written notice given by the City Engineer to Contractor fixing the date on which the contract Time will commence to run and on which Contractor shall start to perform their obligations under the Contract Documents.

"Specifications" Those portions of the Contract Documents consisting of Special Provisions including written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work.

"As directed", "as permitted", "acceptable", "approved", or words similar import mean the direction, requirements, permission, approval, or acceptance of Engineer, unless stated otherwise.

"As shown", "as indicated", "as detailed", or words similar import refer to the Drawings unless stated otherwise.

"Addenda" Written or graphic instructions issued prior to the opening of Bids which clarify, correct, or change the Contract Documents.

"Agreement" The written Agreement between the Owner and Contractor covering the work to be performed; other contract Documents are attached to the Agreement and made a part thereof as provided therein.

Application for Payment The Periodical Estimate for Partial Payment Form which is to be used by Contractor in requesting progress or final payment and which is to include such supporting documentation as is required by the Contract Documents.

Bid The offer of proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bonds Bid, performance, and payment bonds and other instruments of security.

Contract Price The money payable by Owner to Contractor under the Contract Documents as stated in the Agreement (subject to the approximate quantities provisions in the Instructions to Bidders in the case of Unit Price Work).

Contract Time The number of days or the date stated in the Agreement for the completion of the Work.

Contractor The person, firm or corporation with whom Owner has entered into the Agreement.

Day A calendar day of twenty-four hours measured from midnight to the next midnight.

Defective An adjective, which, when modifying the word "Work", refers to Work that is unsatisfactory, faulty, or deficient, or does not conform to the Contract documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to Engineer's recommendation of final payment.

Drawings The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by Engineer and are referred to in the Contract Documents.

Effective Date of the Agreement The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

Field Order A written order issued by Engineer which orders minor changes in the Work but which does not involve a change in the Contract Price or the Contract Time

Final Acceptance The date when the construction of the project is complete in accordance with the Contract Documents so that the entire project can be utilized for the purposes for which it is intended and all monies due Contractor have been paid him in the final Application for payment.

General Requirements Section 1 of the Special Provisions of the Specifications.

Inspector The engineer or technical inspector duly authorized or appointed by Engineer or by Owner, limited to the particular duties entrusted to him.

Modification (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order, or (c) A Field Order. A modification may only be issued after the effective date of the Agreement.

Notice of Award The written notice by Owner to the apparent successful bidder stating that upon compliance by the apparent enumerated therein, within the time specified, Owner will sign and deliver the Agreement.

Owner The City of Gastonia, North Carolina.

Project The total construction of which the Work to be provided under the Contract documents may be the whole or a part, as indicated elsewhere in the Contract Documents.

“Resident Project Representative” The authorized representative of Engineer or Owner who is assigned to the site or any part thereof.

“Shop Drawings” A.. drawings, diagrams, illustration, schedules, and other data which are specifically prepared by or for the Contractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules performance charts, instructions, diagrams, and other information prepared by a supplier and submitted by Contractor to illustrate equipment for some portion of the Work.

“Substantial Completion” The Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purpose for which it was intended.

“Supplier” A manufacturer, fabricator, supplier, distributor, material man, or vendor.

“Work” The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor, and furnishing and incorporating materials and equipment into the construction, as required by the Contract Documents.

Section 2 - Preliminary Matters, Execution, Correlation and Intent of Documents

A. Preliminary Matters

1. The Agreement and other Contract Documents will be executed as set forth therein.
2. When he delivers the executed Agreements to the City, contractor shall also deliver to City such Bonds as they may be required to furnish in accordance with the Contract Documents.
3. City shall furnish to Contractor one completed copy of the Contract Documents.
4. Contractor represents that they have familiarized them self with the nature and extent of the Contract Documents, Work, Locality, and with all local conditions and Federal, state and local laws, ordinances, rules, and regulations that may in any manner affect performance of the Work, and represents that they have correlated their study and observations with the requirements of the Contract Documents. Contractor also represents that they have made such surveys and investigations as he deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract Documents and that they have correlated the results of all such data with the requirements of the Contract Documents.
5. Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures shown therein and all applicable field measurements. He shall at once report in writing to Engineer any conflict, error or discrepancy which he may discover; however, he shall not be liable to City or Engineer for their failure to discover any conflict, error or discrepancy in the Drawings or Specifications.
6. Within ten days after delivery of the executed Agreement by City to Contractor, Contractor shall submit to Engineer for review, an estimated progress schedule indicating the starting and completion dates of the various stages of the Work, and a preliminary schedule of Shop Drawings submissions and other specified schedules.
7. A pre-construction conference will be scheduled as soon as practicable after the award of the contract. The Contractor will be required to attend the conference along with any anticipated major subcontractors.

B. Correlation, Interpretation and Intent of Contract Documents

1. It is the intent of the Specification and Drawings to describe a complete project to be constructed in accordance with the Contract Documents. The Contract Documents comprise the entire Agreement between City and Contractor. They may be altered only by a Modification.
2. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If Contractor finds a conflict, error or discrepancy in the contract Documents, he shall call it to Engineer's attention in writing at once, and before proceeding with the work affected thereby; however, he shall not be liable to City or Engineer for their failure to discover any conflict, error or discrepancy in the Specifications or Drawings. Any Work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended results shall be supplied whether or not it is specifically called for. Work, materials, or equipment described in words which so applied have a well-known technical or trade meaning shall be deemed to refer to such recognized standards.

Section 3 - Design, Drawings, and Instructions

As included in the Contract Documents in other Divisions

Section 4 - Verbal Agreements

No verbal agreement or conversation with any officer, agent or employee of the City either before or after the execution of this Contract, shall affect or modify any of the terms or obligations contained in any of the documents comprising said Contract.

Section 5 - Copies of Drawings Furnished

Owner will furnish to Contractor, free of charge, 5 copies of the contract documents. Additional sets desired will be furnished at printing rates.

Section 6 - Order of Completion

The Contractor shall submit to the Engineer, schedules of the type (CPM, Bar Chart, or other) acceptable to the Engineer which shall show the order in which the Contractor proposes to carry on the work with dates at which the Contractor will start the several parts of the work, and estimated dates of completion of the several parts. Contractor shall furnish an updated schedule with each request for progress payment as provided in the Contract Documents.

Section 7 - Ownership of Drawings

All drawings, specifications and copies thereof furnished to the Contractor by the Engineer shall remain the property of the City and shall not be reused on other work.

Section 8 - Materials, Appliances, Employees

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation and other facilities necessary for the execution and completion of the work. Unless other specified, all materials incorporated in the permanent work shall be new in both workmanship and material and shall be of good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor shall at all times enforce strict discipline and good order among their employees, and shall seek to avoid employing on the work any unfit person or anyone not skilled in the work assigned to him.

Adequate sanitary facilities shall be provided by Contractor.

Section 9 - Royalties and Patent Fees

Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work of any invention, design, process, or product or device which is the subject of patent rights or copyrights held by others. Contractor shall indemnify and hold harmless City and anyone directly or indirectly employed by it from and against all claims, damages, losses and expenses (including attorneys' fees) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the work resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents, and shall defend all such claims in connection with any infringement of such rights.

Section 10 - Surveys, Permits and Regulations

A. Surveys

Unless otherwise specified in the Special Provisions, City shall furnish necessary base lines and stakes for locating the principal component parts of the work together with a suitable number of bench marks adjacent to the work. From the information provided by the City, the Contractor shall develop and make all detail surveys, lines and elevations as he deems necessary. Permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the Contractor.

B. Permits and Regulations

Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Contractor, unless otherwise specified.

The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the Engineer in writing, and any necessary changes in the work.

The Contractor shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

Section 11 - Protection of the Public and of Work and Property

Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

All employees on the Work and other persons who may be affected thereby;

All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site; and

Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation's or replacement in the course of construction.

Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. He shall erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for its safety and protection. He shall notify owners of adjacent utilities when prosecution of the Work may affect them. All damage, injury or loss to any property caused directly or indirectly, in whole or in part, by Contractor, any subcontractor or anyone directly or

indirectly employed or anyone whose acts any of them may be liable, shall be remedied by Contractor; except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of City or Engineer or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable for directly or indirectly, in whole or in part, to the fault or negligence of Contractor. Contractor's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to City and Contractor that the Work is acceptable.

Prior to beginning construction, Contractor shall designate a responsible member of their organization at the site whose duty shall be the prevention of accidents. This person shall meet all OSHA requirements, including but not limited to, certification as a competent person. This person shall be Contractor's superintendent unless otherwise designated in writing by Contractor to City, and shall be present at the job site during any and all construction activity.

City reserves the right to immediately suspend all work at the job site without prior notice to Contractor after a determination is made by the City Engineer, or their designee, of non-compliance by Contractor with any contractual requirement or of a violation of any applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction, concerning the safety of persons or property, or concerning the protection of the same from damage, injury, or loss. In the event of an immediate suspension of work at the work site by City, Contractor waives any right to claim additional compensation for time lost and expenses incurred in correcting the non-compliance or violation, and further waives any claim for extension for time in which to complete the entire contract obligation.

The Contractor shall provide and maintain all necessary watchmen, barricades, caution lights and warning signs and take all necessary precautions for the protection of the public. He shall continuously maintain adequate protection of all work from damage, and shall take all reasonable precautions to protect City's property from injury or loss arising in connection with this Contract.

He shall make good any damage, injury or loss to their work and to the property of the City resulting from lack of reasonable protective precautions, except such as may be due to errors in the Contract Documents, or caused by agents or employees of City. He shall adequately protect adjacent private or public property, as provided by Law and the Contract Documents.

In an emergency affecting the safety of life or of the work or of adjoining property, the Contractor is, without special instructions or authorization from the Engineer, hereby permitted to act at their discretion to prevent such threatening loss or injury. He shall also act, without appeal, if authorized or instructed by the Engineer.

Any compensations claimed by the Contractor on account of emergency work, shall be determined by agreement.

Section 12 - Inspection of Work, Limitations on City's and Engineer's Responsibilities

A. Inspection

City shall provide sufficient competent engineering personnel for the inspection of the Work.

The Engineer and their representatives shall at all times have access to the work whenever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and for inspection.

If the specifications, the Engineer's instructions, laws, ordinances or any public authority require any work to be specially tested or approved, the Contractor shall give the Engineer timely notice of its readiness for inspection, and if the inspection is by an authority other than the Engineer, of the date fixed for such inspection. Inspections by the Engineer shall be promptly made, and where practicable at the source of supply. If any work should be covered up without approval or consent of the Engineer, it must, if required by the Engineer, be uncovered for examination and properly restored at the Contractor's expense.

Reinspection of any work may be ordered by the Engineer, and if so ordered, the work must be uncovered by the Contractor. If such work is found to be in accordance with the Contract Documents, City shall pay the cost of reinspection and replacement. If such work is not in accordance with the Contract documents, the contractor shall pay such cost.

B. Limitations on City's and Engineer's Responsibilities.

Engineer will not be responsible for Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and he will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

Engineer will not be responsible for the acts or omissions of Contractor, or any Subcontractors, or any of their or their agents or employees or any other person at the site otherwise performing any of the Work.

Section 13 - Superintendence

Contractor shall supervise and direct the Work efficiently and with their best skill and attention. He shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but he shall not be solely responsible for the negligence of others in the design or selection of specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents.

The Contractor shall employ and keep on the job site during its progress a competent superintendent and any necessary assistants, all satisfactory to the Engineer. The superintendent shall represent the Contractor in their absence and all directions given to him shall be binding as if given to the Contractor. Important directions shall immediately be confirmed on written request in each case.

If the Contractor, in the course of the work, finds any discrepancy between the plans and the physical conditions of the locality, or any errors or omissions in plans or in the layout as given by survey points and instructions, he shall immediately inform the Engineer in writing, and the Engineer shall promptly verify the same. Any work done after the discovery, until authorized, will be done at the Contractor's risk.

Section 14 - Changes in Work

City, without invalidating the Contract, may at any time, or from time to time, order additions, deletions, or revisions to the work. These changes will be authorized by Change Orders, upon receipt of which Contractor shall proceed with the work involved. All such work shall be executed under the applicable conditions of the Contract Documents. The Contract sum shall be adjusted accordingly, provided, however, any additions to the materials furnished or to the work required while this contract is in effect shall be at the same unit prices as therein specified. Any claim for extension of time caused thereby shall be adjusted at the time of ordering such change.

In the interest of time, the Engineer may issue a written Change Directive. A Change Directive instructs Contractor to proceed with a change in the work, for subsequent inclusion in a Change Order. Where Contractor is directed to perform additional work or provide additional materials for which the Contractor believes a change in contract amount is justified, Contractor shall submit a written proposal or notice of potential Change Order to the City Engineer within 14 calendar days. The City will reject any claims made after this time limit.

In giving instructions, the Engineer shall have authority to make minor changes in the work not involving extra cost, and not inconsistent with the purpose of the work. The City Engineer shall further have authority to issue written change orders up to and including \$10,000.00 in cost, and the City Manager shall have authority to issue written change orders up to the formal construction contract limit, currently set at \$500,000.00. Change orders for emergencies endangering life and property are exempt from the maximum dollar amounts as herein stated. No extra work or change shall be made unless by Change Order, and no claim for an addition to the Contract sum shall be valid unless the additional work was so ordered.

The Contractor shall proceed with the work as changed and the value of any such extra work or change shall be determined as follows:

For changes in the work Overhead and Profit shall not exceed 15% of the value of labor and material for work performed by any Contractor or Subcontractor. If the work is performed by a Subcontractor, the Prime Contractor's Overhead and Profit shall not exceed 7 ½ %.

In the case where unit prices as shown on the Bid form apply, they shall be used to determine the amount of addition to or deduction from the Contract price, provided the unit prices are mutually agreed upon to be fair and equitable.

To the cost shall be added a fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of the estimated cost of the work. The fee shall be compensation to cover the cost of supervision, overhead, bond, profit and other general expenses. All changes in the work shall be submitted in the following manner:

For Work Done by The Contractor:

(Type of Work)

Contract Work

1. Materials (Itemized Breakdown with Documentation)	\$ _____
2. Labor (Itemized Breakdown with Documentation)	\$ _____
3. Equipment Rental (List Separately with Documentation)	\$ _____
	SUB TOTAL: \$ _____
4. Contractor's Overhead, Bond, Supervision, General Expenses and Profit. *Limited to 15% of Items #1, #2 & #3 above.	\$ _____
5. All Sales and Other Applicable Taxes	\$ _____
6. Total quotation: (Includes Items #1, #2, #3, #4 & #5 above)	\$ _____

*In case of deductible changes, this figure will be 10%.

For Work Done by Subcontractors:

(Type of Work)

Contract Work

1. Subcontract Work (Itemized Breakdown with Documentation as Follows:)	
A. Materials (Itemized Breakdown with Documentation)	\$ _____
B. Labor (Itemized Breakdown with Documentation)	\$ _____
C. Equipment Rental (List Separately with Documentation)	\$ _____
D. All Sales and Other Applicable Taxes	\$ _____
	SUB TOTAL: \$ _____

2. Contractor's Overhead, Bond, Supervision, General Expenses and Profit.
 *Limited to 7 1/2 % of Sub-Contract Work Shown in Item #1 above. \$ _____
3. Total quotation:
 (Includes Items #1 & #2 above) \$ _____

*In case of deductible changes, this figure will be 5%.

Section 15 - Extension of Time

- A. The period of time for completion set forth in the Agreement shall be extended in amount equal to time lost due to causes which were not the result of their fault, negligence, or deliberate act. Extension of time for completion shall also be allowed for delays in the progress of employees, or by other Contractors employed by the city, or delay due to an act of the Government, or for any delay in the furnishing of plans and necessary information by the Engineer, or for any other cause in the opinion of the Engineer entitling the Contractor to an extension of time. Weather shall not be considered as a cause for an extension of time.
- B. The Contractor shall notify the Engineer within fifteen (15) days of any occurrence which in the contractor's opinion entitles him to an extension of time for completion. Such notice shall be in writing. The Engineer shall acknowledge in writing receipt of any such claim by the Contractor within five (5) days of its receipt.

Section 16 - Deductions for Uncorrected Work

If the Engineer deems it inexpedient to correct work that has been damaged or that was not done in accordance with the Contract, an equitable deduction from the Contract price shall be made therefor.

Section 17 - Correction of Work Before Final Payment

The Contractor shall promptly remove from the premises all materials condemned by the Engineer as failing to meet Contractor requirements, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute their own work in accordance with the Contract and without expense to City and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.

If the Contractor does not remove such condemned work and materials as promptly as possible, after written notice, City may remove them and store the materials at the expense of the Contractor.

Section 18 - Suspension of Work

City may at any time suspend the work, or any part thereof, by giving five (5) days' notice to the Contractor in writing. The work shall be resumed by the Contractor within ten (10) days after the date fixed in written notice from City to the Contractor so to do. City shall reimburse the Contractor for expense incurred by the result of such suspension; provided, however, that there shall be no reimbursement if City elects to terminate this Contract under the provision of Section 19.

Section 19 - City's Right to Terminate Contract

If the Contractor should be adjudged bankrupt, or if he should make a general assignment for the benefit of their creditors, or if a receiver should be appointed on account of their insolvency, or if he should persistently or repeatedly refuse or fail, except in cases for which extensions of time are provided, to supply enough properly skilled workmen or proper materials, or if he should fail to make prompt payments to subcontractors or for material or labor, or persistently disregard laws, ordinances, or the instructions of the Engineer, or otherwise be guilty of a substantial violation of any

provision of the Contract, then City, upon written notice of the Engineer that sufficient cause exists to justify such action, may without prejudice to any other right or remedy and after giving the Contractor seven (7) days written notice, during which time the default has not been cured, terminate the employment of the Contractor and take possession of the premises and of all materials previously compensated for in whole or part by City and finish the work by whatever method it may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price shall exceed such unpaid balance, the Contractor shall pay the difference to City. The expense incurred by City herein provided, and the damage incurred through the Contractor's default, shall be determined by the Engineer.

Where the Contract has been terminated by City, said termination shall not affect or terminate any of the rights of City as against the Contractor or their surety then existing or which may thereafter occur because of such default. Any retention or payment of moneys by City due the Contractor under the terms of the Contract, shall not release the Contractor or their surety from liability for their default.

Section 20 - Contractor's Right to Stop Work or Terminate Contract

If the work should be stopped under an order of any court, or other public authority, for a period of sixty (60) days, through no act or fault of the Contractor or of anyone employed by him, or if the Engineer should fail to issue any estimate for payment within thirty (30) days after it is due, or if City should fail to pay the Contractor within thirty (30) days of its maturity and presentation any sum certified by the Engineer, then the Contractor may, upon seven (7) days written notice to the City and the Engineer, during which time the default has not been cured, stop work to terminate this Contract and recover from City payment for all work executed, plus any loss sustained upon any plans or materials plus reasonable profit and damages.

Section 21 - Removal of Equipment

In the case of termination of this Contract before completion for any cause whatsoever, the Contractor, if notified to do so by City, shall promptly remove any part or all of their equipment or supplies from the property of City; failing which the City shall have the right to remove and to store such equipment and supplies at the expense of the Contractor.

Section 22 - Use of Completed Portions

City, may at any time during progress of the work, after written notice to the Contractor, take over and place in service any completed portions of the work which are ready for service, although the entire work of the Contract is not fully completed, and notwithstanding the time for completion of the entire work of such portions which may be expired. In such case, City shall issue certificate of acceptance for such portions of the work, but such taking possession thereof shall not be deemed an acceptance of any other portions of the work, nor of any uncompleted portions, nor of any work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays the work, the Contractor shall be entitled to such extra compensation, or extension of time, or both, as determined by the Engineer.

Section 23 - Payments Withheld Prior to Final Acceptance of Work

City may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any certificate of payment to such extent as may be necessary to protect itself from loss on account of:

- a) Defective work not remedied.
- b) Claims filed or reasonable evidence indicating public filing of claims by other parties against the Contractor
- c) Failure of the Contractor to make payments properly to subcontractor for material or labor.
- d) Damage to another contractor.

When the above grounds are removed or when the Contractor provides a surety bond satisfactory to City which will protect in the amount withheld, payment shall be made for amounts withheld.

Section 24 - Indemnity

The Contractor and their sureties shall indemnify and save harmless City and all its officers, agents, and employees from all suits, actions or claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person or persons or property, on account of any negligent act or fault of Contractor, their agents or employees, in the execution of said Contract; or on account of the failure of the Contractor to provide necessary barricades, warning lights or signs; and will be required to pay any judgment, with cost, which may be obtained against City growing out of such injury or damage.

The Contractor shall, unless otherwise specified, maintain and pay for such insurance, issued in the name of City, as will protect City from contingent liability under this Contract, and City's right to enforce against the Contractor any provisions of this article shall be contingent upon the full compliance by City with the terms of such insurance policy or policies, a copy of which shall be deposited with City.

If either party to this Contract should suffer injury or damage in any manner because of any wrongful act or neglect of the other party or of anyone employed by him, then he shall be reimbursed by the other party for such damages.

Notice of pending claim for any such reimbursement shall be made in writing to the party liable within reasonable time of the first observance of such damage, and the claim shall be filed and adjusted prior to the time of final payment.

Section 25 - Excess Cost of Field Engineering and Inspection for Time Extension

These General Conditions of the Contract provide for the payment by Contractor to Owner of certain engineering and inspection expenses in the event Owner should not grant to Contractor an extension or extension of time. The aforesaid excess cost of field engineering and inspection are not intended nor do they constitute liquidated damages, but are in addition to any other damages to which Owner may be entitled as a result of Contractor's failure to complete the work within the required time. The amount of said engineering and inspection expenses shall be computed and determined on the basis of the per hour schedule of charges for a 40-hour straight time work week as shown in the following schedule. For any overtime beyond the regular 8-hour day and for any time worked on Saturday, Sunday, or holidays, the charges are shown in the following schedule:

Schedule of Charges	For Each Hour
Project Engineer	\$75.00
Civil Engineer	\$55.00
Inspectors	\$45.00

Section 26 - Liens

Neither the final payment nor any part of the retained percentage shall become due until the Contractor shall deliver to City a complete release of all claims or liens arising out of this Contract, or receipts in full in lieu thereof and, if required in either case, an affidavit that so far as they have knowledge or information the release and receipts include all the labor and materials for which a lien or claim could be filed; but the Contractor may, if any Subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Engineer to indemnify City against any claim or lien (in case where such payment is not already guaranteed by surety bond). If any claim or lien remains unsatisfied after all payments are made, the Contractor shall refund to City all moneys that the latter may be compelled to pay discharging such lien, including all costs and reasonable attorney's fees.

Section 27 - Assignment

The Contractor shall not assign the Contract or sublet it as a whole or in part without the written consent of City, nor shall the Contractor assign any moneys due or to become due to him hereunder, without the previous written consent of City. Assigning or subletting the Contract shall not relieve the Contractor or their surety from any contractual obligations.

Section 28 - Rights of Various Interests

Wherever work being done by City's forces or by other Contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the Engineer, to secure the completion of the various problems of the work in general harmony.

Section 29 - Separate Contracts

City reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate their work with theirs.

All such decisions of the Engineer shall be final except in cases where time and/or financial considerations are involved.

Section 30 - Subcontractors

The Contractor shall, as soon as possible after the signing of the Contract, notify the Engineer in writing of the names of all proposed Subcontractors not previously identified in the proposal. Use of said Subcontractors is subject to the approval of the Engineer.

The Contractor agrees that he is as fully responsible to City for the acts and omissions of this Subcontractors and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

Nothing contained in the Contract Documents shall create any contractual relation between any Subcontractor and City.

Contractor agrees to bind specifically every Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of City.

Section 31 - Engineer's Status

The Engineer shall have general inspection and direction of the work. they have authority to stop the work whenever such stoppage may be necessary to insure the proper execution of the Contract. He shall also have authority to reject all work and materials which do not conform to the Contract and to decide questions which arise in the execution of the work.

Section 32 - Engineer's Decision

The Engineer shall, upon presentation to him, make prompt decisions in writing on all claims of City or the Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the Contract Documents.

All such decisions of the Engineer shall be final except in cases where time and/or financial considerations are involved.

Section 33 - Lands for Work

City shall provide as indicated on the drawings the lands upon which the work under this Contract is to be done, rights-of-way for access to same, and such other lands which are designated on the drawings for the use of the Contractor. Any delay in the furnishing of these lands by City shall be deemed proper cause for an adjustment in time of completion only.

The Contractor shall provide at their own expense and without liability to City any additional land and access thereto that may be required for temporary construction facilities, or for storage of materials.

Section 34 - Cleaning Up

The Contractor shall, as directed by the Engineer, remove at their own expense from City's property and from all public and private property all temporary structures, rubbish and waste materials resulting from their operations. This requirement shall not apply to property used for permanent disposal of rubbish or waste materials in accordance with permission of such disposal granted to the Contractor by City.

Section 35 - Discrimination Prohibited

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

- A. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, age, disability or sexual orientation. The Contractor will take affirmative action to insure that applicants are employed, and that their race, creed, color, sex, national origin, age, disability or sexual orientation is not used to discriminate them. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment advertising, layoff or termination, rates of pay or other forms of compensation; selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- B. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, national origin, age, disability or sexual orientation.

Section 36 - Conflicts of Interest

No member, officer or employee of the City or its designees or agents, no member of the governing body of the locality in which the program is situated, or no other public official of such locality or localities who exercises any functions or responsibilities in connection with this Agreement shall have any interest, direct or indirect, in this contract or sub-contract, or in the proceeds thereof, for work to be performed in connection with the program assisted under this agreement. Immediate family members of said members, officers or employees of the City or its designees or agents are similarly barred from having any financial interest in the program. No member of or delegate to the Congress of the United States shall be admitted to any share or part of this contract or sub-contract. This provision shall be incorporated in all such contracts and subcontracts.

Section 37 - Participation of Disadvantaged Business Enterprise (DBE)

During the performance of this Contract, the Contractor agrees to ensure that disadvantaged business enterprises as defined in N.C.G.S. §143-128.4 have the maximum opportunity to participate in the performance of contracts and subcontracts and to make good faith efforts to recruit such disadvantaged business enterprises. The City's DBE participation aspirational goal is at least **ten percent (10%)** of the total contract amount to DBEs on construction projects of \$300,000 or more. In this regard, the Contractor shall take all necessary and reasonable steps to insure that

disadvantaged business enterprises have the maximum opportunity to complete and perform contracts. The Contractor shall not discriminate on the basis of race, color, creed, national origin, sex, age, disability, or sexual orientation in the award of subcontracts.

Section 38 - Contract Documents

General

The Contract Documents comprise the following general classifications of documents, including all additions, deletions, and modifications incorporated therein before the execution of the Agreement.

- Bidding Documents
- Contractual Documents
- Conditions of the Contract
- Specifications
- Drawings

Bidding Documents

The Bidding Documents issued by Owner to assist bidders in preparing their Proposal include:

- Invitation to Bid bound herewith.
- Instructions to Bidders bound herewith.

The Proposal which is the offer of a bidder to perform the work described in the Contract Documents, made out and submitted on the prescribed Proposal Forms bound herewith, properly signed and guaranteed.

Any addenda issued during the time of bidding, or forming a part of the Contract Documents used by the Bidder for the preparation of their Proposal shall be covered in the Proposal and shall be made a part of the Contract. Receipt of each Addendum shall be acknowledged in the Proposal.

Contractual Documents

"Agreement"

The Agreement covers the performance of the work described in the Contract Documents, including all supplemental Addenda thereto and all general and special provisions pertaining to the work or materials. The Agreement form is bound herewith.

"Bonds"

Contractor shall, at the time of their execution of the Agreement, furnish bonds payable to Owner in the form of bonds set forth herein, secured by a surety company acceptable to Owner, as follows:

Faithful Performance Bond in an amount equal to 100 percent of the total Contract Amount, conditioned upon the faithful performance of all covenants and stipulations under the Contract and holding good for a period of one year after the final acceptance of the work to protect Owner against the results of defective materials, workmanship, and equipment during that time.

Payment Bond in an amount equal to 100 percent of the total Contract Amount for the payment of all persons, companies, or corporations who perform labor upon or furnished material to be used in the work under this Contract.

It is the responsibility of Contractor to notify all surety companies and other signers of any of the bonds listed above, to familiarize themselves with all of the conditions and provisions of this Contract. All surety companies and other signers shall waive their right of notification by Owner of any change or cancellation of this Contract, or of any other acts by Owner or its authorized employees or agents under the terms of this Contract. The waiver by the surety companies and other signers shall in no way relieve the surety companies and other signers of their obligations under this Contract.

"Conditions of the Contract"

General Conditions of the Contract bound herewith and of which this paragraph is a part.

"Specifications and Drawings"

Contract Specifications bound herewith, which are listed in the table of contents for these Contract Documents.

Contract Drawings including but not limited to those listed in Volume II of the Contract Documents.

"Discrepancies"

Any discrepancies found between the Drawings and Specifications and site conditions or any inconsistencies or ambiguities shall be reported to the Engineer, who shall promptly correct such inconsistencies or ambiguities in writing. Any work done by Contractor after such findings, until authorized, will be done at contractor's risk.

"Interpretation of Specifications and Drawings"

The Contract Specifications and the Contract Drawings are intended to be explanatory of each other. Any work indicated on the Drawings and not in the Specifications, or vice versa, is to be executed as if indicated in both. In the event of any doubt or question arising respecting the true meaning of the Specifications or Drawings, reference shall be made to Engineer and their decision thereon shall be final.

"Dimensions"

Finished surfaces in all cases shall conform with the lines, grades, cross-sections, and dimensions shown on the Drawings. Deviations from the Drawings, as may be required by the urgency of construction, will in all cases be determined by the Engineer and authorized in writing the Engineer or Owner. If additional dimensions are required, they shall be requested from Engineer.

"Titles and Headings"

The titles and subheadings printed on the Drawings, in the General Conditions, in the Specifications, and elsewhere in the Contract documents are inserted for the convenience of reference only, and shall not be taken or considered as having any bearing on the interpretation thereof.

Separation of the Specifications into Sections shall not operate to make Engineer an arbiter to establish limits of work between Contractor and subcontractors, or between trades.

"Additional Drawings and Instructions"

The Drawings and Specifications are intended to be comprehensive and to indicate the scope of work. Should it appear that the work to be done, or any of the matters relative thereto, is not sufficiently detailed or explained in these Contract documents, including the Drawings, Contractor shall apply to Engineer for such further explanations as may be necessary and shall conform to such explanations as part of this Contract, so far as they may be consistent with the terms of the Contract.

In addition to these explanations, Engineer may furnish additional drawings and instructions from time to time during the progress of the work to clarify or to define in greater detail the intent of the Specifications and Drawings, and Contractor shall make their work conform to all such additional drawings and instructions.

Section 39 - Owner-Contractor-Engineer Relations

A. Archaeological Finds

Notwithstanding anything to the contrary herein, in the event any archaeological artifacts within the project are discovered during the course of work, Owner shall have and retain all right, title, and interest to such artifacts and shall have further right, during the course of the Contract, to examine or cause to perform or have performed archaeological excavations and all other related work to explore for, discover, recover and remove such artifacts from the site of work. In the event the work of archaeological examination and related work cause delays in Contractor's work, he shall be entitled to an extension of time to complete the work equal to the number of days he is delayed by such examinations.

B. Office of Contractor at Site

During the performance of this Contract, Contractor shall maintain a suitable office at the site of work which shall be the headquarters of the foreman or superintendent authorized to receive drawings, instructions, or other communications, articles, or things from Owner or its agents; and any such thing given to the said foreman or superintendent or delivered to Contractor's office at the site of the work in this absence shall be deemed to have been given to Contractor. Contractor shall have a telephone installed in this office.

C. Protection of Existing Structures

Unless otherwise indicated on the Drawings or unless otherwise taken care of by the Owner thereof, all utilities and all structures of any nature, whether below or above ground, that may be affected by the work shall be protected and maintained by Contractor and shall not be disturbed or damaged by him during the progress of the work. Should Contractor disturb, disconnect, or damage any utility or any structure, all expenses of whatever nature arising from disturbance or replacement or repair thereof shall be borne by Contractor.

D. Protection of Contractor's Work and Property

Contractor shall protect their work, supplies, and materials from damage due to the nature of the work, the action of the elements, trespassers, or any cause whatsoever, until the completion and acceptance of the work.

Neither Owner nor any of its officers, employees, or agents assumes any responsibility for collecting indemnity from any persons or person causing damage to the work of Contractor.

E. Location of Utilities

The location of all utilities shown on the Drawings were taken from public records. It shall be the duty of Contractor to make final and exact determination of the location and extent of these utilities, and he will be liable for any expense resulting from damage to them.

Any expense incurred by Contractor for repair of damage, relocation, or removal of underground utilities not shown on the Drawings or which cannot be reasonably inferred from visible above ground features, shall be the responsibility of the party determined liable for such cost pursuant to the terms of the North Carolina Underground Damage Prevention Act, Sections 87-100 through 87-114, as amended, providing that Contractor shall immediately notify Engineer of any facility discovered while performing work required by the Contract and which has not been identified on the Drawings.

Because of the nature of the work, minor adjustments may be required in new construction to meet existing conditions. Adjustments which may be accomplished without expense to Contractor shall be made without additional cost to Owner.

F. Acceptance of Contractor's Plans

The acceptance by Engineer of any drawings or any method of work proposed by Contractor shall not relieve Contractor of any of their responsibility for any errors therein and shall not be regarded as any assumption of risk or liability by Owner or any officers or employee thereof; and Contractor shall have no claim under the Contract of account of failure or partial failure or inefficiency of any plan or method so accepted. Such acceptance shall be considered to mean merely that Engineer has no objection to Contractor's using, upon their own full responsibility, the plans or method proposed.

G. Suggestions to Contractor

Any plan or method of work suggested by Engineer or Contractor, but not specified or required, if adopted or followed by Contractor, in whole or in part, shall be used at the risk and responsibility of Contractor, and Engineer and Owner shall assume no responsibility thereof.

H. Cooperation with Owner and Other Contractors

Any difference or conflict which may arise between Contractor and other Contractors who may be performing work on behalf of Owner, or between Contractor and workman of Owner on regard to their work shall be adjusted and determined by Engineer. If the work of Contractor is delayed because of any acts or omissions of any other Contractor or Owner, Contractor shall on that account have no claim against Owner other than for an extension of time.

I. Resident Project Representative

Owner will furnish a resident Project Representative to observe the performance of the work. The duties, responsibilities, and limitation of authority of the Resident Project Representative and assistants will be defined in these General Conditions.

J. Authority of the Engineer

All work done under this Contract shall be done in accordance with the Contract Documents and in a good workmanlike manner. To prevent disputes and litigation, Engineer shall in all cases determine the amount, quality, acceptability, and fitness of the several kinds of work and materials which are to be paid for under this Contract. Engineer shall decide all questions relative to the true construction meaning, and intent of the Specifications and the Drawings; and shall decide all questions which may arise relative to the classifications and measurements of quantities and materials and the fulfillment of this Contract; and shall have the power to reject work or material which does not conform to the terms of this Contract. their estimate and decision on all matters shall be a condition precedent to an appeal to Owner, or the right of Contractor to receive, demand, or claim any money or other compensation under this Contract. their estimate and decision on all matters shall be a condition precedent to an appeal to Owner, or the right of Contractor to receive, demand, or claim any money or other compensation under this Contract and a condition precedent to any liability on the part of Owner to Contractor on account of this Contract. Whenever Engineer shall be unable to act, in consequence of absence or any other cause, then such person as Engineer or Owner shall designate shall perform any and all of the powers herein to Engineer.

Section 40 - Materials, Equipment, and Workmanship

A. General Quality of Materials

Materials and equipment shall be new and of a quality equal to that specified.

B. Quality in Absence of Detailed Specifications

Whenever under this Contract it is provided that Contractor shall furnish materials or manufactured articles or shall do work for which no detailed specifications are set forth, the materials or manufactured articles shall be of the best grade in quality and workmanship obtainable in the market from firms of established good reputation, or, if not ordinarily carried in stock, shall conform to the usual standards for first-class materials or articles of the kind required, with due consideration, in either situation, of the use to which they are to be put. In general, the work performed shall be in full conformity and harmony with the intent to secure the best standard of construction and equipment of the work as a whole or in part.

C. Materials and Equipment Specified by Name

Any material or equipment indicated or specified by brand or trade name may also list at least one additional brand or trade name of comparable quality or utility followed by the words "or equal", except for those items of material or equipment which may be required by the specifications to match others in use in an existing facility. Contractor may offer any material or equipment which shall be equal in every respect to that specified, but written acceptance of such equipment or material shall be obtained from Engineer or Owner. The decision of Engineer or Owner shall be final.

D. Approval of Materials and Equipment

All materials and equipment offered to be furnished or furnished for the work are subject to inspection and approval or rejection by Engineer. Insofar as practicable, approval shall be obtained prior to purchase and delivery of materials and equipment to the site of work.

E. Removal of Condemned Materials, Structures, and Work

Contractor shall remove from the site of the work, without delay, all rejected materials, structures, or work of any kind brought to or incorporated in the work; and upon their failure to do so, or to make satisfactory progress in so doing within two working days after the service of a written notice from Engineer, the rejected material or work may be removed by Owner and the cost of such removal shall be taken out of the money that may be due or may become due Contractor on account of or by virtue of this Contract. No such rejected material shall again be offered for use by Contractor under this Contract.

F. Night, Saturday, Sunday, or Legal Holiday Work

No work shall be done between the hours of six o'clock P.M. and seven o'clock A.M., nor on Saturday, Sunday or a legal holiday, except such work as necessary for proper care and protection of work already performed or except in case of emergency and, in any case, only with permission of Engineer. It is understood, however, that Saturday and night work may be established as a regular procedure by Contractor if he first obtains the written permission of Engineer, and that such permission may be revoked at any time by Engineer if Contractor fails to maintain on Saturdays and at night adequate force and equipment for reasonable prosecution and to justify inspection of the work.

G. Records of Employees

Contractor and each subcontractor shall keep an accurate record showing the name, place or residence, occupation, per diem pay, and actual hours worked each day and each calendar week by each person employed in connection with the work. The records shall be available at any time to Engineer or their duly authorized representative.

H. Final Guarantee

All work shall be guaranteed by Contractor for a period of one year from and after the date of acceptance of the work by Owner.

If, within the guarantee period, repairs or changes are required in connection with guaranteed work which, in the opinion of Engineer, is rendered necessary as the result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the Contract, Contractor shall, promptly upon receipt of notice from Owner and without expense to Owner, do the following:

Place in satisfactory condition in every particular all of such guaranteed work and correct all defects therein.

Make good all damage to the work which, in the opinion of Engineer, is the result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the Contract.

Make good any work or material, or equipment, or site disturbed in fulfilling any such guarantee.

Submit a work schedule showing the dates of starting and completing the repair work.

If Contractor, after notice, fails within 10 days to proceed to comply with the terms of this guarantee, Owner may have the defects corrected, and Contractor and their surety shall be liable for all expense incurred; provided, however, that in case of an emergency where, in opinion of Owner, delay would cause loss or damage, repairs may be started without notice being given to Contractor and Contractor shall pay the cost thereof.

If minor repairs are made by Owner without notice to Contractor, or if Owner personnel are used to assist Contractor or an equipment supplier in making repairs to defective work, Contractor will be billed for and shall pay the costs of the minor repairs and the costs associated with the use of Owner personnel. If, in order to make required repairs, it is considered necessary by Contractor that the repairs be made at the manufacturer's factory, Contractor shall pay the cost of removing, crating, shipping, repairing, and re-installing the equipment.

All special guarantees or warranties applicable to specific parts of the work as may be stipulated in the specifications or other papers forming a part of this Contract shall be subject to the terms of this paragraph during the first year of the life of each such guarantee. All special guarantees and manufacturer's warranties shall be assembled by Contractor and delivered to Engineer, along with a summary list thereof, before the acceptance of the work.

Section 41 - Insurance, Legal Responsibility and Safety

A. Insurance

Contractor shall take out, pay for, and maintain throughout the duration of, and specifically for, this Contract the following insurance coverage.

B. Public Liability and Property Damage Insurance

1) For Contractor

This insurance shall protect Contractor from claims for bodily injury and property damage (except automotive equipment) which may arise because of the nature of the work or from operations under this Contract.

2) For Owner and Engineer

This separate policy of insurance shall name Owner, Engineer, their partners, Officers, agents and employees as insureds. The original insurance policy shall be submitted for retention by Owner along with a copy for Engineer. This separate policy shall provide coverage to said Owner, Engineer, and their partners, officers,

agents, and employees with respect to said work. Both bodily injury and property damage insurance must be on an occurrence basis, and said policy shall provide the coverage afforded thereby shall be primary coverage to the full limit of liability stated in the declarations and if said Owner, Engineer, and their partners, officers, agents and employees have other insurance against the loss covered by said policy, that other insurance shall be excess insurance only. No exclusions shall be permitted by endorsement with the exception of preparation or approval of maps and plans, opinions, reports surveys, designs, or specifications.

3) Amount of Coverage

Amount of Work	*Minimum Limit of Liability Coverage
Up to \$1,000,000.00	\$1,000,000.00
\$1,000,000.01 - \$2,000,000.00	\$2,000,000.00
\$2,000,000.01 - \$3,000,000.00	\$3,000,000.00

Each of the above public liability and property damage policies of insurance shall provide coverage in the following minimum limits of liability: For bodily injury \$_____* each occurrence; property damage, \$_____* on account of any one occurrence with an aggregate limit of not less than \$_____*.

4) Subcontractors

The public liability and property damage insurance shall not be deemed to require Contractor to have their subcontractors named as co-insureds in their policy liability and property damage, but the policy shall protect him from contingent liability which may arise from operations of their subcontractors. Also, Contractor shall secure certificates of insurance as evidence that each subcontractor carries insurance to provide coverage under this Contract shall submit copies of their subcontractor's insurance certificates to Owner and Engineer as evidence of insurance coverage.

5) Included Coverage

The above public liability and property damage insurance shall also include the following coverages:

Premised - Operations

Contractor's Protective
(subcontractors to Contractor).

Products - Completed Operations.

Personal Injury (false arrest, libel, wrongful eviction, etc.)

Broad Form Property Damage.

XCU (explosion, collapse, underground damage).

Contractor Liability with respect to the hold harmless agreement as herein stated.

Builder's Risk Insurance if applicable.

C. Comprehensive Automobile Liability

This insurance shall cover owned, hired, and other non-owned automobiles as shall protect Contractor from claims for bodily injury or property engaged in various operations under this Contract. The automobile insurance shall provide minimum limits of liability for bodily injury of \$____* for each person and \$____* each occurrence, and \$____* of property damage each occurrence.

The City of Gastonia shall be named as additional insured on Contractor's Automobile Liability Insurance.

D. Umbrella Policy

At the option of Contractor, primary limits may be less than required, with an umbrella policy providing the additional limits needed. This form of insurance will be acceptable provided that the primary and umbrella policies both provided the insurance coverage's herein required, and further provided that the umbrella policy minimum limits of coverage are \$____* per occurrence and \$____* aggregate. The umbrella coverage shall not apply to Owner's and Engineer's protective policy.

E. Certificate of Insurance

Contractor shall, at the time of execution of their Contract, file with Owner a certificate of insurance in the form set forth herein, and copies of the policies covering all their insurance required herein, and the policy or policies of officers, agents, and employees. In those states where use of the pre-printed certificate insurance form is prohibited, Contractor shall submit an approved form of certificate of insurance providing the coverage's herein required. Each such policy and certificate shall be satisfactory to Owner and shall bear an endorsement precluding cancellation, reduction, or change in coverage without giving Owner at least 30 days prior to notice thereof in writing. Nothing contained in the insurance requirements shall be construed as limiting the extent of Contractor's responsibility for payment of damages resulting from their operations under this Contract.

F. Notification of Insurance Companies

It is the responsibility of Contractor to notify all insurance companies to familiarize themselves with all of the conditions and provisions of this Contract. The insurance companies shall waive their right of notification by Owner of any change or modification of this Contract, or of decreased or increased work, or of the cancellation of this Contract, or of any other acts by Owner or its authorized employees or agents under the terms of this Contract. The waiver by the insurance companies shall in no way relieve the insurance companies of their obligations under this Contract.

G. Hold Harmless Agreement

Contractor shall indemnify and save harmless Owner, Engineer, and all of their officers, agents, and employees from all suits, actions, or claims of any character brought for or on account of any injuries to or death of or damages received by any person, persons, or property resulting from the operations of Contractor or any of their subcontractors in prosecuting the work under this Contract, except such damage, injury, or death as shall have been occasioned by the sole negligence of Owner or Engineer.

H. Injury or Illness Reports

Contractor shall file with Engineer three copies of employer's first report of injury or illness immediately following any incident requiring the filing of said report during the prosecution of the work under this Contract. Contractor shall also furnish to Engineer three copies of the employer's first report of injury or illness involving any subcontractor on this project.

I. Laws to be Observed

Contractor shall keep them self fully informed of all existing and future federal, state, county and municipal laws, ordinances, and regulations which in any manner affect those engaged or employed in the work or the materials used in work or conduct of the work or the rights, duties, powers, or obligations of Owner, or of Contractor or which otherwise affect the Contract, and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. He shall at all times observe and comply with, and shall protect and indemnify Owner and all of its officers, agents, and employees, and Engineer, against any claim, loss, or liability arising or resulting from or based upon the violation of any such law, ordinance, regulation, order, or decree, whether by them self or by their agents, subcontractors, or employees.

Contractor shall, at its own expense, strictly adhere to all pertinent safety standards, rules and OSHA regulations required or recommended by governmental or quasi-governmental authorities having jurisdiction. The Contractor hereby acknowledges that it has its own safety program for all work covered by or performed under this Contract. The Contractor agrees to conduct its own frequent and regular inspections of all work covered by or performed under this Contract at the project site, to verify compliance with the Contractor's safety program and all applicable safety standards, rules and OSHA regulations. The Contractor and Owner acknowledge and agree that the Owner has no control, responsibility or authority over the Contractor or the Contractor's employees or subcontractors with regard to the safety and health conditions relating to or arising out of the Contractor's work or the performance of any work covered by this Contract. The Contractor has the sole responsibility and authority for ensuring that any and all hazardous conditions relating to or arising out of the Contractor's work are corrected. With regard to the Contractor's work or any work covered by or performed under this Contract, Owner is not the controlling employer or controlling entity for the purpose of detecting hazardous conditions or ensuring that hazardous conditions are corrected.

J. Provisions of Law

It is specifically provided that this Contract is subject to all the provisions of law regulating and controlling the performance of work for Owner, and that the rules of law shall prevail over any provision contained in any of the Contract Documents which may be in conflict thereto or inconsistent therewith. Each and every provision of law and clause required by law to be inserted in these Contract Documents shall be deemed to be inserted in these Contract Documents shall be read and enforced as though it were included herein, and if, through mistake or otherwise, any such provision is not inserted, or is not correctly inserted, then upon application of either party, the Contract documents shall forthwith be physically amended to make such insertion or correction.

K. Deliveries to Contractor

Delivery by Owner or any of its agents or representatives to Contractor of any drawings, samples, notices, letters, communications, or other things may be made by person to the foreman or superintendent at the site of work; by delivery to Contractor's business address specified in the bid or specified in a written notice of changed address delivered to Owner; or by delivery to Contractor's office at site of the work. Delivery to Contractor's above mentioned business address, or to Contractor's office at the site of the work, may be made by either by personal delivery to such address or office or by depositing the thing to be delivered in the United States mail, postage prepaid, addressed to such address or office.

L. Liability of Owner's Representatives and Officials

No official or employee of Owner, nor Engineer, nor any authorized assistant or agent of any of them, shall be personally responsible for any liability arising under this Contract. Engineer shall not be responsible for construction means, methods, techniques, sequences and procedures, time of performance, or for safety precautions and programs in connection with construction work. Engineer shall not be responsible for acts or omissions of Contractor, any subcontractors, or any of their agents or employees, or any other persons performing any of the work.

Section 42 - Progress and Completion of Work

A. Commencement of Contract Time; Notice to Proceed

The contract time will commence to run on the day indicated in the Notice to Proceed.

B. Notice of Starting Work

Contractor shall notify Owner in writing 48 hours before starting work at the site of the work of their intentions to do so. In case of a temporary suspension of work he shall give reasonable notice before resuming work.

C. Time of Completion

Contractor shall promptly begin the work and prosecute the same until the work under this Contract shall be completed to the point of final acceptance and ready for full use within the time specified in the Agreement.

D. Equipment and Methods

The work under this Contract shall be prosecuted with all materials, tools, machinery, apparatus, and labor, and by such methods as are necessary to the complete execution of everything describing, shown, or reasonably implies in the Contract Documents. If at any time before the beginning or during the progress of the work, any part of the Contractor's plant or equipment or any of their methods of execution of the work appear to Engineer to be inefficient or inadequate to insure the required quality or rate of progress of the work, he may request and Owner may order Contractor to increase or improve their facilities or methods and Contractor shall comply promptly with such orders nor failure of Owner to issue such quality of the work and the rate of progress required, Contractor alone shall be responsible for the safety, adequacy, and efficiency of their equipment and methods.

E. Unfavorable Weather and Other Conditions

During unfavorable weather and other unfavorable conditions, Contractor shall pursue only such portions of the work as shall not be damaged thereby. No portions of the work whose satisfactory quality or efficiency will be affected by an unfavorable condition shall be constructed while these unfavorable conditions exist unless, by special means or precautions, Contractor shall be able to overcome them.

Section 43 - Payments to Contractor

SEE SECTION 1.45 OF THE INSTRUCTIONS TO BIDDERS

A. Payment for Uncorrected Work

If any portion of the work done or material furnished under this Contract proves defective and not in accordance with the Contract Documents; and if the imperfection in the same is not sufficient magnitude or importance to make the dangerous or wholly undesirable; or if the removal of such work is impracticable will create conditions which are dangerous or undesirable, Engineer shall have the right and authority to retain such work instead of requiring the imperfect work to be removed and reconstructed, but he shall recommend to Owner such deductions therefor in the payments due or to become due Contractor as may be just and reasonable, and Owner may make such deductions as are just and reasonable.

B. Acceptance

Any part of the work may be accepted in writing by Owner when it shall have been completed in accordance with the terms of the Contract Documents as determined by Owner and its official representatives. When the work is substantially completed, Contractor shall notify Owner, in writing, that the work will be ready for final inspection and test on a definite date which shall be stated in such notice. The notice shall be given at least 10 days in advance of said date and shall be forwarded through Engineer. Owner shall cause an inspection to be made in order to determine

whether the work has been completed in accordance with the terms of the Contract Documents. **All work shall be completed in all events to the point of final acceptance by the date specified in the "Notice to Proceed".**

C. Final Estimate and Pay

Contractor shall, within thirty (30) days from the date of the final acceptance letter, make a final estimate of the amount of work done thereunder and the value thereof. Such final estimate shall be checked, approved, and signed by Engineer and by the official representative of Owner after approval of the governing body of Owner. After such approval, Owner shall pay or cause to be paid to Contractor, in the manner provided by law, the entire sum so found to be due hereunder, after deducting therefrom all previous payments and such other amounts as the terms of this Contract prescribe.

Failure to supply the above stipulated "close-out" documents within thirty (30) days will forfeit future payments to the Contractor and all remaining monies under the Contract will revert to the General Fund.

Neither the final payment nor any part of the retained percentage shall become due until Contractor shall deliver to Owner a complete release of claims or liens arising out of this Contract, or receipts in full lieu thereof and, if required in either case, an affidavit that so far as they have knowledge or information the release and receipts include all the labor and materials for which a lien or claim could be filed. If any claim or lien remains unsatisfied after all payments are made, Contractor shall refund to Owner all moneys that the latter may be compelled to pay on discharging such a lien, including all costs and a reasonable attorney's fee.

Section 44 - Record Drawings (As-Builts)

The Contractor will maintain a set of Record Drawings for the project which will include the changes made in materials, equipment, locations, and dimensions of the work. Each month, or as otherwise agreed, the Contractor shall submit to the City of Gastonia a current listing and description of each change incorporated into the work since the preceding submittal.

In addition, the Contractor shall maintain a record of exact location of buried utilities encountered and any below grade structures. Reference items to definitive reference point location such as found property corners, entrances to buildings, existing structure lines, fire hydrants, and related fixed structures. Include such information as location, elevation, coverage supports and additional pertinent replacement servicing or adjacent construction around any buried facility. When the work is complete, the Contractor shall submit a final Construction Record Drawing of all pipe systems in the project including both project items and pre-existing items. The drawings shall identify the complete location, elevation, and description of piping systems. The pipe systems shall be related to identified structures and appurtenances, with a minimum of two (2) dimensions to each individual item in the plan view. (See City's Typical Drawing).

The Final Record drawings shall be submitted by the Contractor with the "close-out" documents as stipulated under Section 43(C) FINAL ESTIMATE AND PAY above.

Technical Specifications

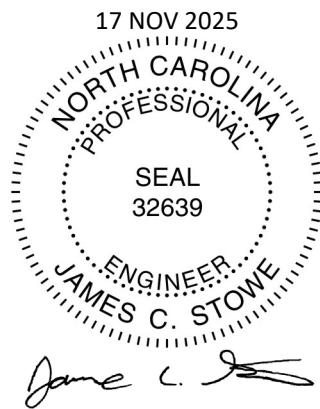
Technical Specifications

Wastewater Facilities

Long Creek WWTP Plant Sewer
Project No. SRP-W-134-0191



We are **TRU** to our customers!



WILLIS ENGINEERS
10700 SIKES PLACE, SUITE 115
CHARLOTTE, NORTH CAROLINA 28277
NC LICENSE NO. F-0114

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DIVISION 01 – GENERAL REQUIREMENTS

SECTION 01 11 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION.

- A. The following summary of work is a general description of work to be performed under the Project. This description does not supersede any other requirements to the Contract Documents. In general, the project includes constructing approximately 400 feet of 16-inch sewer, 300 feet of 12-inch sewer, 4 manholes, 100 feet of 24-inch storm sewer, and all appurtenances.
- B. The general areas of work include the following:
 1. Construction of new sewer.
 2. Construction of connections to existing system.
 3. Construction of manholes.
 4. Testing new sewer lines.
 5. Restoration of surfaces.

1.02 LOCATION OF WORK.

- A. The construction site is located at the Long Creek Wastewater Treatment Plant in Dallas, North Carolina.

1.03 CONTRACT TIME.

- A. The number of days within which, or the dates by which the work is to be substantially completed are set forth in the Agreement.

1.04 COORDINATION OF WORK.

- A. The Contractor is advised that work on the project is to be performed in an active wastewater treatment plant. The Contractor shall coordinate his efforts as to not interfere with the normal operation of the Plant.

1.05 QUALITY ASSURANCE.

- A. The Contractor shall provide all construction in a workman like manner and provide access to the Engineer or Owner for inspection of the work as prescribed in the General Conditions.

PART 2 – PRODUCTS

This section not used.

PART 3 – EXECUTION

This section not used.

END OF SECTION 01 11 00

SECTION 01 14 00 – WORK RESTRICTIONS

PART 1 - GENERAL

1.01 TRAVEL NOT TO BE OBSTRUCTED.

- A. The Contractor shall not allow travel upon any street, park, roadway, or alley to be hindered or inconvenienced needlessly, nor shall the same be wholly obstructed without the written permission of the owner thereof in which case the Contractor shall cause plain and properly worded signs announcing such fact to be placed, with proper barricades, at the nearest cross streets, upon each side of such obstructed portion, where travel can pass around the same in the shortest and easiest way.

1.02 MAINTAINING FLOW OF LINES.

- A. The Contractor shall, at his expense, provide for and maintain the flow of all sewers, drains, house or inlet connections and all water-courses which may be met with during the progress of the work including any necessary bypass pumping. He shall not allow the contents of any sewer, drain or house inlet connection to flow into trenches, sewers, or other structures to be constructed under the Contract, and shall at his own expense, immediately remove and cart away from the vicinity of the work all offensive matter.
- B. The Contractor shall, at his own expense, provide for and maintain the flow in all water mains or laterals which may be met with during the progress of the work. When water mains or laterals are to be disturbed to the extent that the water will be shut off, the superintendent of the water utility and all parties being served by the lines involved shall be notified 72 hours in advance, giving them time and duration of the shut-off period. Any water service interruption must be scheduled and approved by the Owner.
 - 1. In the case of an accidental breaking of a water line, the repairs of such break shall have priority over all other operations. The Engineer shall be notified immediately.
 - 2. The parties whose services are affected by the break and the utility shall be notified at once and all assistance given to supply emergency water where necessary by temporary lines, tank truck, or other means.
- C. The Contractor shall have the obligation at his expense to assure that all water, gas and sewer connections serving private or public property shall be promptly and correctly restored.
- D. In cases involving fire hydrants, the fire department shall be so notified. In the case of an accidental breaking of a water line, the repairs of such break shall have priority over all other operations. The parties whose services are affected by the break shall be notified at once and all assistance given to supply emergency water where necessary by temporary lines, tank truck, or other means. The Contractor shall have the obligation at his expense to assure that all water, gas and sewer connections serving private or public property shall be promptly and correctly restored.
- E. The Contractor is advised that work on the project is to be performed in an active wastewater treatment plant. The Contractor shall coordinate his efforts as to not interfere with the normal operations at the Plant.

1.03 PROJECT SCHEDULE.

- A. The Contractor shall submit to the Engineer for approval a copy of a practical and feasible work schedule.
- B. The work schedule may be in the form of a critical path or bar graph. All schedules shall be updated by the Contractor on a monthly basis.
- C. Where there is more than one Contract on the Project, the Contractor shall, within ten days following the execution of his Contract with the Owner, submit six copies of his own proposed work schedule to the Engineer for approval. After approval, sufficient additional copies of the approved schedule shall be submitted to the Engineer for transmittal of two copies to each of the other contractors, who shall then prepare and submit their own work schedules for approval. The Contractor shall then incorporate these schedules into his schedule.
- D. The Contractor on each Contract shall adhere to the approved work schedule for his Contract. In the event a Contractor does not adhere to his work schedule and causes other contractors to be damaged, the Contractor causing the delay shall save the Owner and Engineer harmless from all actions and charges of the other contractors against the Owner or Engineer caused by said delay.

PART 2 – PRODUCTS

This section not used.

PART 3 – EXECUTION

This section not used.

END OF SECTION 01 14 00

SECTION 01 20 00 – MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 SUMMARY.

- A. This section covers methods of measurement and payment for items of work under the Bid Form.

1.02 GENERAL.

- A. The total bid price shall cover all work required by the Contract Documents. All costs in connection with the proper and successful completion of the work; including furnishing all materials, equipment, supplies, and appurtenances; providing all construction plans, equipment, and tools; and performing all necessary labor and supervision to fully complete the work, shall be included in the bid prices. All work not specifically set forth as to pay item in Bid Form shall be considered subsidiary obligations of the Contractor, and all costs in connection therewith shall be included in the bid prices.

1.03 ESTIMATED QUANTITIES.

- A. All estimated quantities stipulated in the Bid Form or other Contract Documents are approximate and are to be used only (a) as a basis for estimating the probable cost of the Work, and (b) for the purpose of comparing the bids submitted for the Work. The actual amounts of work done and materials furnished under unit price items may differ from the estimated quantities. The basis of payment for work and materials will be the actual amount of work done and materials furnished. The Contractor agrees that he will make no claim for damages, anticipated profits, or otherwise on account of any difference between the amounts of work actually performed and materials actually furnished and the estimated amounts therefore.
- B. Except where otherwise specified, the unit or lump sum bid price for each item of work, which involves excavation, or trenching shall include all costs for such work. No direct payment shall be made for excavation or trenching unless shown elsewhere.

1.04 MEASUREMENT AND PAYMENT.

- A. Pipeline, Fitting, and Valves (Bid Items 1 through 7)
 - 1. The measurement for payment of pipeline will be on the actual number of linear feet of pipe installed based on pipe size and joint type, measured along the centerline of the pipe.
 - 2. The unit price bid per linear foot for the construction of the pipeline shall include all of the Contractor's cost for the complete construction of the pipeline, exclusive of items provided for elsewhere in the Bid Form.
 - 3. The unit price per linear foot shall include: furnishing, transporting, and installing all pipe and fittings; bends and elbows necessary to achieve the required alignment; restrained joints at fittings; bracing, shoring, and sheeting; screenings; excavation, including exploratory excavation; construction of the specified bedding; backfilling (method of

backfill and compaction as specified); protection and adjusting of aboveground and underground utilities and service connections; testing; inspection; restoration to preconstruction conditions including asphalt driveways, stone driveways, concrete curb, concrete sidewalks, driveway culverts, fences, mail boxes, etc.; seeding; and all other related and necessary materials, work, and equipment required for complete construction of the plant sewer not specifically designated elsewhere in the Contract Documents.

4. Allowable Trench Width. The allowable trench width shall be as specified on the trench details and shall not exceed 12-inch outside the pipe diameter unless specifically shown on the drawings.
5. Pipe Materials. Allowable pipe materials shall be as shown on the Contract Drawings. Pipe thickness class shall be as shown or specified.
6. Pipe shall be pressure tested in accordance with the Contract Documents.
7. No additional payment will be made for rock excavation, unless specifically used as a bid item.
8. The measurement for payment of valves and fittings will be on the actual number installed on the basis of size.
9. Price shall include furnishing all materials, labor, tools, equipment, and all work including excavation and backfilling as required.

B. Cased Crossings (Bid Item 8)

1. The measurement for payment of cased crossings including the casing pipe shall be the actual linear feet installed measured along the centerline of the pipe.
2. Unit price shall include excavation of bore pits, furnishing and installation of casing pipe, spacers and fittings, staking bore pits, boring, jacking, and/or excavation, backfilling, restoring crossing to original condition, and all other items required by the Contract Documents. This item does not include the carrier pipe.

C. Precast Manholes and Drop Inlets (Bid Items 9 through 11)

1. The measurement for payment of manholes, drop inlets, and castings shall be the actual number installed. Price shall include all materials, labor, tools, equipment, and all work including excavation and backfilling as required.
2. The Bid Price shall include furnishing and installing manholes, drop manholes, sealed manholes, vented manholes, air relief manholes, transition manholes and manholes over existing sewers and drop inlets as shown on the Drawings as scheduled in the Bid.

D. Backwash Holding Tank Improvements (Bid Item 12)

1. The measurement for payment for backwash holding tank improvements shall be the lump sum price stated in the bid. The lump sum price shall include furnishing all

materials, labor, tools, equipment, and all work as required to remove orifice restriction in the backwash holding tank.

E. Connection to Existing System (Bid Item 13)

1. The measurement for payment of connection to existing systems shall be the actual number of connections. Price shall include all labor, materials, tools, equipment and all work as required to complete the work as shown on the Contract Drawings.

F. Excavation Below Subgrade and Stone Fill Material (Bid Items 14 and 15)

1. Measurement for payment for undercut excavation and stone fill material shall be the unit prices per stated in the Bid. Payment shall be made only when its use is directed by the Engineer.
2. The bid price for undercut excavation shall include removal, hauling and proper disposal of unsuitable material.
3. The bid price for stone fill shall include furnishing, hauling, placing, and compacting stone or approved equal, as directed by the Engineer.
4. No extra payment shall be made for work not authorized by the Engineer, or for stone required by other bid items.

G. Landscaping and Restoration (Bid Item 16)

1. The measurement for payment for landscape and restorations shall be the lump sum price stated in the Bid. The lump sum price shall include all furnishing all materials, labor, tools, equipment, and all work as required to restore grass planting strips and mulching in landscaped areas.
2. The lump sum bid price shall include all materials, equipment, labor and tools necessary for restoration and replacement of existing fence, gates, and other miscellaneous items as described in the Contract Drawings.

H. Erosion Control Devices (Bid Item 17)

1. The Contractor shall include in the lump sum price for erosion control measures the cost of all materials and labor required to install, maintain, and remove all erosion control devices as specified, shown on the Contract Drawings required by the NCDENR Permit in accordance with the Sedimentation and Pollution Control Act of 1972, other applicable regulations. This includes, but is not limited to erosion and sedimentation control practices including site preparation, seeding & surface stabilization, runoff control & conveyance measures, outlet & inlet protection, sediment traps & barriers, stream protection, other related practices and NPDES Stormwater minimum visual monitoring & reporting requirements (including an onsite rain gauge & log).

I. Mobilization (Bid Item 18)

1. The lump sum bid for mobilization shall include all costs for bonds, insurance, fees, permits, establishing a field office, moving construction equipment to the site, and other

necessary but “nonscheduled” work. Mobilization shall not exceed 3% of the Subtotal as shown on the Bid Form.

PART 2 – PRODUCTS

This section not used.

PART 3 – EXECUTION

This section not used.

END OF SECTION 01 20 00

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 GENERAL.

- A. The Contractor shall submit shop drawings for all equipment and materials in accordance with the provisions of the General Conditions.
- B. All discrepancies or deviations from the Contract Drawings or Specifications shall be clearly identified on the front of the shop drawing submittal.
- C. Each drawing shall be dated and shall show the name of the Project, Contract number and the name of the manufacturer of the equipment covered by the drawing or drawings.
- D. No work covered by shop and setting drawings shall be done until the drawings have been approved by the Engineer.
- E. No approval will be given for any shop drawings until shop drawings for related items are received.

1.02 SHOP DRAWING APPROVAL PROCEDURE.

- A. The following procedure shall be followed in the submittal and processing of shop drawings:
 1. The Contractor shall submit at least four copies of drawings, catalog data, and similar items for review and approval. This number includes one for return to the Contractor bearing approval or request for amendment. If the Contractor desires more than one copy returned to him, he shall submit with the initial and subsequent transmittals the additional number desired. If the Engineer requires additional copies, he will so inform the Contractor.
 2. In lieu of paper submittal the Contractor may supply a neatly formatted PDF submittal.
 3. Drawings and similar data will be stamped by the Engineer as follows:
 - a. "Approved", if no change or rejection is made. All but three copies of the submitted data will be returned.
 - b. "Approved as Noted", if minor changes or additions are made, but resubmittal is not considered necessary. All but three copies of the submitted data will be returned and all copies will bear the corrective marks.
 - c. "Examined and Returned for Correction", if the changes requested are extensive or retransmittal of the submittal is required to another Contractor. In this case resubmittal after correction is necessary and the same number of copies shall be included in the resubmittal.
 4. Unless otherwise approved in specific cases, all data must be transmitted by the Contractor; not by subcontractors or vendors.

5. Any changes other than those indicated as requested, made in the drawings or other data, must be specifically brought to the attention of the Engineer upon resubmittal. Changes or additions shall not be made in or to approved data without re-approval by the Engineer.

PART 2 – PRODUCTS

This section not used.

PART 3 – EXECUTION

This section not used.

END OF SECTION 01 33 00

SECTION 01 57 13 – GROUND STABILIZATION AND MATERIALS HANDLING

PART 1 – GENERAL

1.01 GENERAL.

- A. The Contractor shall take whatever measures necessary to minimize soil erosion and siltation caused by his operations. He shall keep fully informed of all such regulations which in any way affect the conduct of the work, and shall at all times observe and comply with all such regulations.
- B. The North Carolina Sedimentation Pollution Control Act of 1973 requires that all visible sediment be contained within the boundaries of a construction site. The Contractor shall exercise every reasonable precaution, throughout the life of the project, to contain all siltation within the construction site and to prevent the eroding of soil and the silting of streams, lakes, reservoirs, other water impoundments, ground or roadway surfaces or other property. The erosion/siltation control measures for this project, as stated in these specifications and shown on the Drawings, have been approved by the North Carolina Department of Environmental Quality (NCDEQ), Division of Energy, Mineral and Land Resources. Details referenced herein are the required minimum details prescribed by the State. This project is subject to periodic inspection by the Department during construction.
- C. The ground stabilization, and materials handling measures defined herein and shown on the Drawings are in accordance with General Permit No. NCG01. The Contractor shall comply with the applicable details and specifications in order to maintain compliance with the General Permit.
- D. The measures defined herein and approved by NCDEQ do not include offsite borrow or spoil areas. The use of offsite borrow or spoil areas will require proper documentation by the Contractor that all applicable regulations are being satisfied.

1.02 GROUND STABILIZATION.

- A. The erosion and siltation control measures shown on the plans or required by field conditions at the time of construction shall be installed before any land disturbing activity in the drainage area within which they are located. They shall be maintained in proper working order until permanent ground cover is re-established. Permanent ground cover shall be established within the number of calendar days after ceasing land disturbing activities as specified below:

Site Area Description	Calendar Days	Timeframe Variations
Perimeter dikes, swales, ditches, and perimeter slopes	7	None
High Quality Water (HQW) Zones	7	None

Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes & HQW Zones -10 days for Falls Lake Watershed
Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes & HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

- B. Ground cover will consist of seeding, mulching and fertilizing as specified. Particular attention will be given to prompt establishment of temporary ground cover along cut and fill slopes. The Contractor will be required to follow the land disturbing activities (as closely as practical) with his site restoration, fertilizing, seeding, and mulching.
- C. After the permanent completion of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

1.03 TEMPORARY GROUND COVER.

- A. If land disturbing activities are completed such that permanent seeding will be delayed or vegetative cover is needed for less than one year, temporary ground cover shall be established. If temporary ground cover is required between January 1 and May 1, the cover shall be established with a seed mixture of Rye Grain applied at a rate of 120 lbs per acre and Kobe Lespedeza applied at a rate of 50 lbs per acre. If temporary ground cover is required between May 1 and August 15, the cover shall be established with a seed mixture of German Millet applied at a rate of 40 lbs per acre. If temporary ground cover is required between August 15 and December 30, the cover shall be established with a seed mixture of Rye Grain applied at a rate of 120 lbs per acre. All seeding shall be as specified.
- B. Lime, fertilizer, and mulching shall be provided as specified. Mulch shall be anchored by crimping using a mulch anchor tool or by application of a liquid mulch binder.

1.04 BUFFER ZONE.

- A. When practical, the Contractor shall leave intact a natural buffer zone between construction and the natural watercourse. This zone shall contain sufficient vegetative cover to be adjudged capable of retarding and confining visible siltation. Should the proximity of construction not allow an adequate natural buffer zone, the Contractor shall erect and maintain erosion and siltation control devices as necessary to prevent silt from escaping the site in the event of rainfall prior to backfill and restoration.

- B. Buffer zones shall be in compliance with the North Carolina Sedimentation Pollution Control Act of 1973 and General Permit No. NCG01.

PART 2 – PRODUCTS

2.01 POLYACRYLAMIDES (PAMS) AND FLOCCULANTS.

- A. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- B. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- C. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary contaminant structures.

2.02 SEDIMENT FENCES.

- A. Sediment Fences (Silt Check Fence) shall be constructed where shown on the plans. Construction shall conform to Erosion Control Detail 6.62.
- B. Synthetic filter fabric shall be Mirafi, Inc., Phillips Petroleum Company, or equal. Posts shall be 4-inch pine, 2-inch oak, or 1.33 pound per foot steel. Post spacing shall be maximum 8 feet on center with wire mesh fabric support, or may be 6 feet on center with extra strength filter fabric.
- C. Inspect silt fences weekly and after each rainfall event 1.0 inch and greater. Remove sediment as needed to maintain adequate storage. If silt fence becomes damaged or collapses, replace immediately. Silt fence shall be removed after drainage area has been stabilized. Any maintenance or replacement of silt fence shall be properly documented with an Inspection Report.

2.03 MATTING.

- A. All disturbed ditches shall be lined with excelsior matting per the manufacturer's recommendations. Matting for erosion control shall not be dyed, bleached or otherwise treated in a manner that will result in toxicity to vegetation. Other acceptable material manufactured especially for erosion control may be used when approved by the Engineer in writing before being used.
- B. Excelsior matting shall consist of a machine produced mat of curled wood excelsior at least 47" in width and weigh 0.975 lb/sy with a tolerance of $\pm 10\%$. At least 80% of the individual excelsior fibers shall be 6" or more in length. Evenly distribute the excelsior fibers over the entire area of the blanket. Cover one side of the excelsior matting with an extruded plastic mesh. The mesh size for the plastic mesh shall be no more than 1" x 1".
- C. Matting shall be held down with machine made staples of No. 11 gauge new steel wire formed into a U-shape. The size when formed shall be not less than 6" in length with a throat of not less than 1" in width.

2.04 WATTLE.

- A. Wattles (straw logs) are tubular products consisting of straw materials encased in synthetic netting. Wattles shall be constructed where shown on the plans and where required along the roadside drainage ditches. Wattles shall be 12-inch diameter made of biodegradable fibers. Wattles shall be anchored utilizing hardwood stakes a minimum 2-feet long with a 2-inch x 2-inch square cross section. A minimum of four stakes shall be installed on the downstream side with no more than 2-inches exposed. Wattles shall also be secured to the soil by wire staples every 12-inches and at the end of each section.
- B. Inspect wattles weekly and after each rainfall event 1.0 inch and greater. Clean out sediment and other debris to prevent damage to channel vegetation. The wattle shall be replaced if clogged or worn.

PART 3 – EXECUTION

3.01 EQUIPMENT AND VEHICLE MAINTENANCE.

- A. Maintain vehicles and equipment to prevent discharge of fluids.
- B. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- C. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- D. Remove leaking vehicles and construction equipment from service until the problem has been corrected.

3.02 LITTER, BUILDING MATERIAL, AND LAND CLEARING WASTE.

- A. The Contractor shall never bury or burn waste. Place litter and debris in approved waste containers.
- B. The Contractor shall provide a sufficient number and size of waste containers (e.g. dumpsters, trash receptable) on site to contain construction and domestic wastes.
- C. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- D. Waste shall be disposed of off-site at an approved disposal facility.

3.03 PAINT AND OTHER LIQUID WASTE.

- A. Contractor shall not dump paint and other liquid waste into storm drains, streams or wetlands.
- B. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- C. Contractor shall prevent the discharge of soaps, solvents, detergents, and other liquid wastes from construction sites.

3.04 EARTHEN STOCKPILE MANAGEMENT.

- A. Stockpiles shall be located only as shown on the Contract Drawings. Stockpile areas shall not be placed within 50 feet of storm drain inlets, sediment basins, perimeter sediment controls and surface waters.

3.05 CONCRETE WASHOUTS.

- A. Contractor shall not discharge concrete or cement slurry from the site.
- B. Dispose of, or recycle, settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- C. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- D. Following completion of concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

3.06 HERBICIDES, PESTICIDES, AND RODENTICIDES.

- A. Herbicides, pesticides, and rodenticides shall be stored and applied in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act and label restrictions.
- B. Contractor shall store herbicides, pesticides, and rodenticides in their original containers with the label, which lists directions for use, ingredients, and first aid steps in case of accidental poisoning.

3.07 HAZARDOUS AND TOXIC WASTES.

- A. Hazardous or toxic waste shall be managed in accordance with the federal Resource Conservation and Recovery Act (RCRA) and NC Hazardous Waste Rules established by 15A NCAC, Subchapter 13A.
- B. Contractor shall create a designated hazardous waste collection area on-site as applicable.

3.08 DRAWDOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSEOUT.

- A. Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is feasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (e.g. times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:
 1. The Erosion and Sediment Control plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or

conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items.

2. The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of General Permit NCG01.
3. Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems.
4. Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item 3 above.
5. Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices.
6. Sediment removed from the dewatering treatment devices described in Item 3 above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

3.09 CONSTRUCTION SEQUENCE.

- A. Install erosion control measures in advance of land disturbing activities.
- B. Construct facilities.
- C. Maintenance of erosion control devices is the Contractor's responsibility. Erosion control measures shall be inspected weekly and after each rain event. The devices shall be inspected for damage and repairs shall be completed immediately.
- D. Reseed, mulch, and stabilize disturbed areas where applicable following equipment installation.
- E. Maintain all erosion control measures. After project area is stabilized, remove erosion control devices.

3.10 SELF-INSPECTIONS.

- A. The Contractor shall perform self-inspections as required during normal business hours in accordance with the table below. When adverse weather or site conditions would hinder the safety of the inspection personnel, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0-inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency	Inspection Record Includes
Rain gauge maintained in good working order	Daily	Daily rainfall amount. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero". The permittee may use another rain-monitoring device approved by the Division.
E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<ol style="list-style-type: none"> 1. Identification of the measures inspected. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Indication of whether the measures were operating properly. 5. Description of maintenance needs for the measure. 6. Description, evidence, and date of corrective actions taken.
Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<ol style="list-style-type: none"> 1. Identification of the discharge outfalls inspected. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration. 5. Indication of visible sediment leaving the site. 6. Description, evidence, and date of corrective actions taken.
Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<p>If visible sedimentation is found outside the site limits, then a record of the following shall be made:</p> <ol style="list-style-type: none"> 1. Actions taken to clean up or stabilize the sediment that has left the site limits. 2. Description, evidence, and date of corrective actions taken. 3. An explanation as to the actions taken to control future releases.
Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<p>If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made:</p> <ol style="list-style-type: none"> 1. Description, evidence, and date of corrective actions taken

		2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land disturbing activity, construction of redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

*Note: The rain inspection resets the 7 calendar day inspection requirement.

3.11 RECORDKEEPING.

- A. The approved E&SC plan as well as any approved deviation shall be kept on-site at all times. The approved plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on-site and available for inspection at all times during normal business hours:

Item to Document	Documentation Requirements
Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date, and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date, and sign an inspection report.
Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

- B. In addition to the E&SC plan documents above, the Contract shall keep the following items on site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:
 - 1. A copy of the approved General Permit NCG01 as well as the Certificate of Coverage.
 - 2. Records of inspections made during the previous twelve months. The Contractor shall record the required observations on the Inspection Record Form included in this Contract. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.
- C. All inspection records for the project shall be given to the Owner after completion of the project.

3.12 REPORTING.

- A. The Contractor shall inform the Owner or Engineer of the following as soon as practical:
 - 1. Visible sediment deposited in a stream or wetland.
 - 2. Oil spills if:
 - a. They are 25 gallons or more
 - b. They are less than 25 gallons but cannot be cleaned up within 24 hours
 - c. They cause sheen on surface waters (regardless of volume)
 - d. They are within 100 feet of surface waters (regardless of volume)
 - 3. Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act or Section 102 of CERCLA or G.S. 143-215.85.
 - 4. Anticipated bypasses and unanticipated bypasses.
 - 5. Noncompliance with the conditions of General Permit NCG01 that may endanger health or the environment.

3.13 ADDITIONAL CONTRACTOR RESPONSIBILITY.

- A. Borrow and/or spoil areas either at the project site or at other locations shall be subject to all erosion control requirements contained herein. Excavated soils shall be piled in such a manner to prevent eroding or otherwise washing.
- B. The Contractor shall periodically check all erosion control devices in place to determine the need for cleaning or otherwise removing silt build-up to restore them to their original condition. Silt build-up shall be periodically removed as needed. Erosion control measures shall be maintained in good order throughout the project and until their removal is directed.

The Contractor, upon completion of this project, shall leave intact those temporary erosion control devices deemed necessary by the Engineer for future protection.

- C. These requirements are not meant to be all inclusive, but rather to make the Contractor aware of minimum requirements. Failure of the Contractor to comply with any of the preceding requirements will result in the Contractor receiving formal notification to initiate such measures. If compliance is not forthcoming within 48 hours of receipt of same, the Engineer will suspend work pursuant to the North Carolina Sedimentation Pollution Control Act.

END OF SECTION 01 57 13

DIVISION 31 – EARTHWORK

SECTION 31 01 00 – MAINTENANCE OF EARTHWORK

PART 1 – GENERAL

1.01 GENERAL.

- A. Earthwork shall include the loosening and removing, transporting, storage, backfilling, and all handling of material of either natural soils, deposited soils, rock or boulder for the construction and completion of all work under this Contract.

1.02 ASSOCIATED DEFINITIONS.

- A. EARTH includes all materials such as sand, gravel, clay, loam, muck, soft or disintegrated rock, not requiring blasting, barring or wedging from their original beds, and specifically excludes all ledge or bedrock, and individual boulders or masonry larger than one-half cubic yard in volume.
- A. SUBGRADE is earth material on which structures or other materials are to be placed.
- B. BACKFILL includes selected materials for the backfilling of all excavations and trenches up to the original surface of the ground or to other grades as may be shown or directed.
- C. SPOIL includes surplus excavated materials not required or suitable for backfills or embankments.
- D. EMBANKMENTS include fills constructed of selected materials above the original surface of the ground.
- E. ROCK includes all pieces of ledge or bedrock, boulders, or masonry larger than one-half cubic yard in volume requiring blasting for removal.
- F. The term EXCAVATION where used, shall be deemed and understood to cover the following described work:
 1. Grubbing, removing, storing, and rehandling of all materials of every name and nature necessary to be removed for all purposes incidental to construction and completion of all the work under Contract;
 2. All sheeting, sheetpiling, bracing and shoring, and the placing, driving, cutting off and removing the same;
 3. All diking, ditching, fluming, cofferdamming, pumping, bailing, and draining or otherwise disposing of water;
 4. The refilling of trenches and pits and the furnishing and placing of material over trenches and pits to the line of filling indicated on the Contract Drawings or directed;
 5. The compacting of all materials used in filling or refilling by rolling, ramming, water, puddling, as may be required;

6. The removing and disposing of all surplus materials from the excavations in the manner specified;
7. The maintenance, accommodation and protection of travel;
8. The supporting and protecting of all tracks, rails, buildings, curbs, sidewalks, pavements, overhead wires, poles, trees, vines, shrubbery, pipes, sewers, conduits, or other structures or property in the vicinity of the work, whether over or underground or which appear within the excavations, and the restoration of the same in case of settlement or other injury;
9. All temporary bridging and fencing and the removing of same, the temporary paving of highways, roads, driveways, and the permanent repairing or replacing and relaying of pavements, curbs, gutters, and sidewalks removed, disturbed, or injured, the removing and cleaning away of all construction rubbish, refuse, unused materials, plant, and tools from the site of the work;
10. The dressing, sodding or seeding of all unpaved areas as may be necessary to leave the surface in as good condition as it was previous to the commencement of the work.

PART 2 – PRODUCTS

This section not used.

PART 3 – EXECUTION

3.01 EXCAVATION.

- A. Excavations shall be of sufficient size, and only of sufficient size, to give suitable room for the proper construction of structures and appurtenances, including allowances for sheeting, dewatering, and other similar work necessary for completion of the Contract.
- B. Excavations for structures shall be made only to the lines and grades shown on the Contract Drawings, specified, or directed.
- C. In no case will undercutting excavation faces for extended footings be permitted. Not less than 12-inches clearance shall be provided between excavation faces and exterior wall surfaces. Adequate clearance shall be provided for placement and compaction of backfill material.
- D. Where necessary, a layer of Class "D" concrete of sufficient thickness to withstand subsequent construction operations shall be installed below the specified subgrade elevation and the structure concrete deposited thereon. Subject to the approval of the Engineer, granular materials may be used for subsoil reinforcement if satisfactory results can be obtained thereby. Such material shall be applied in layers, each layer being entirely embedded in the subsoil by thorough tamping. All excess soil shall be removed to compensate for the displacement of the gravel or crushed stone and the finished elevation of any subsoil reinforced in this manner shall not be above the specified subgrade.
- E. The trenches in which pipelines are to be constructed, shall be excavated in all cases in such manner and to such depths and widths as will give suitable room for the pipelines which the

trenches are to contain for sheeting, pumping, and draining, and for removing the material not suitable for pipe subgrade.

- F. Trenches for pipes shall be not less than 6-inches wider than the pipe on each side. Width of trenches, measured 18-inches above the top of the pipe shall not exceed 12-inches on each side, except sheeted trenches wherein this width shall not exceed 24-inches.
- G. Where, for any reason, the width of the lower portion of the trench, measured at 18-inches above the top of the pipe, exceeds the maximum width, additional concrete cradle or concrete encasement, as required by loading conditions shall be furnished and installed by the Contractor at his own expense.
- H. Under ordinary conditions, excavation shall be open cut. Where the depth of the trench and soil conditions permit, tunneling may be required beneath crosswalks, curbs, gutters, pavements, trees, concrete driveways, roadways, railroad tracks and other surface structures. No additional compensation will be allowed for such tunneling over the price bid for open cut excavation of equivalent depths below the ground surface unless such tunnel excavation is specifically provided for in the Bid.
- I. Trenches shall not be opened for more than 100 feet or NCDOT limit in advance of the completed pipe or sewer nor left unfilled for more than 100 feet in the rear thereof without consent of the Engineer. Excavation of the trench shall be fully completed at least 20 feet in advance of the pipe laying or construction of the invert unless specifically permitted otherwise.

3.02 EXCAVATION BELOW SUBGRADE.

- A. In case the materials encountered at the limiting subgrades are not suitable for proper support of structures, the Contractor shall excavate from the limiting subgrades shown or specified, to such new lines and grades, as will be ordered by the Engineer. Excavation below subgrade shall be done only upon express orders of the Engineer. Unless otherwise shown or specified, the limiting subgrade for structures shall be the underside of structures at the footing lines.
- B. The additional space excavated below the subgrade shall be refilled with granular materials, Class "D" concrete or with other materials as the Engineer may direct.
- C. Excavation below subgrade and the special backfill materials so ordered, will be paid for under appropriate items of the Contract.

3.03 EMBANKMENT.

- A. Embankments shall be constructed to establish lines and grades at the locations shown on the Contract Drawings and as directed by the Engineer. Embankment materials shall be natural soil free from excessive moisture, frost, stumps, trees, roots, sod, muck, marl, vegetable matter or other unsuitable materials. Embankment material shall be obtained from acceptable materials on the site or from approved borrow pits and shall be well graded from fine to coarse with a minimum content of silt. All materials shall be suitable for compaction in layers not exceeding 8-inches in thickness and shall remain stable when wet.

- B. The entire surface to be covered with embankment shall be stripped of all grass, vegetation, topsoil, rubbish, or other unsuitable materials before any embankment material is placed.
- C. In general, embankment materials shall be placed in horizontal layers not exceeding 8-inches in thickness, measured after compaction, and shall be thoroughly compacted. Stones, if any, shall not exceed 6-inches in greatest dimension and shall be well distributed throughout the mass. Where embankments are to be constructed across ground which will not support the weight of the construction equipment, the fill shall be constructed by placing successive loads of granular material in uniform layers until a satisfactory bearing is obtained. In areas upon which structures are to be built, the embankment materials shall be placed in layers not exceeding 6-inches in thickness, measured after compaction. All embankments shall be subject to Density Control.

3.04 UNAUTHORIZED EXCAVATION.

- A. Whenever excavations are carried beyond or below the lines and grades shown on the Contract Drawings, or as given or directed by the Engineer, all such excavated space shall be refilled with granular material, concrete or other materials as the Engineer may direct. All material which slides, falls or caves into the established limits of excavations due to any cause whatsoever, shall be removed and disposed of at the Contractor's expense. Owner shall not incur any cost associated with over excavation or backfill of excavation.
- B. No extra compensation will be paid the Contractor for any materials ordered for refilling the void areas left by a slide, fall, cave-in, or any other unauthorized excavation.

3.05 REMOVAL OF WATER.

- A. The Contractor shall at all times during construction, provide and maintain proper and satisfactory means and devices for the removal of all water entering the excavations, and shall remove all such water as fast as it may collect, in such manner as shall not interfere with the prosecution of the work or the proper placing of pipelines, masonry, or other work.
- B. Removal of water includes the construction and removal of cofferdams, sheeting and bracing, the furnishing of materials and labor necessary therefor, excavation and maintenance of ditches and sluice-ways and the furnishing and operation of pumps, wellpoints, and appliances needed to maintain thorough drainage of the work in a satisfactory manner.
- C. Water shall not be allowed to rise over or come in contact with any masonry, concrete or mortar, until at least 24 hours after placement, and no stream of water shall be allowed to flow over such work until such time as the Engineer may permit.
- D. Unless otherwise specified all excavations for structures and pipelines which extend to or below the static ground water elevations shall be dewatered by lowering and maintaining the ground water to an elevation at least two feet below the excavation subgrade. All cost for installing, operating and removing pumping systems and wellpoints shall be the responsibility of the Contractor.
- E. Where the presence of fine grained subsurface materials and a high ground watertable may cause the upward flow of water into the excavation with a resulting quick condition, the

Contractor shall install and operate a wellpoint system to prevent the upward flow of water during construction.

- F. Where wellpoints are used, the ground water shall be lowered and maintained continuously (day and night) at a level not less than two feet below the bottom of the excavation. Excavation shall not be permitted at a level lower than two feet above the water level as indicated by the observation wells.
- G. The effluent pumped from the wellpoints shall be examined periodically by qualified personnel to determine if the system is operating satisfactorily without the removal of fines.
- H. The water level shall not be permitted to rise until construction in the immediate area is completed and the excavation is backfilled to the original grade.
- I. Wellpoint headers points, and other pertinent equipment shall not be placed within the limits of the excavations in such manner or location as to interfere with the laying of pipe or trenching operations or with the excavation for and construction of other structures. Stand-by gasoline or diesel powered equipment shall be provided so that in the event of failure of the operating equipment, the stand-by equipment can be readily connected to the system. The stand-by equipment shall be maintained in good order and actuated regularly not less than twice a week when directed.
- J. Wellpoints shall be installed in the center of a sand wick drain which shall be placed by means of a sanding shell or other approved means to provide a sand core not less than 10-inches in diameter.
- K. Detached observation wells of similar construction to the wellpoints shall be installed at intervals of not less than 50 feet along the opposite side of the trench from the header pipe and line of wellpoints, to a depth of at least 5 feet below the proposed excavation. In addition, one wellpoint in every 50 feet shall be fitted with a tee, plug, and valve so that the wellpoint can be converted for use as an observation well. Observation wells shall be not less than 1-1/2-inches in diameter.
- L. Water pumped or drained from excavations, or any sewers, drains or water courses encountered in the work shall be disposed of in a suitable manner without injury to adjacent property, the work under construction, or to pavements, roads, and drives. No water shall be discharged to sanitary sewers. Sanitary sewage shall be pumped to sanitary sewers or shall be disposed of by an approved method.
- M. Any damage caused by improper handling of water shall be repaired by the Contractor at his own expense.

3.06 STORAGE OF MATERIAL.

- A. Any sod cut during excavation shall be removed and stored during construction so as to preserve the grass growth, and shall be replaced in position upon completion of the work.
- B. Topsoil suitable for final grading shall be removed and stored on the site separately from other excavated material.

- C. All excavated material shall be piled in a manner that will not endanger the work. Excavated material will be piled a safe distance away from the edge of the excavation allowing room for an adequate angle of repose and if shoring, sheeting, and bracing is used to protect the excavation, no material will be piled within three (3) feet of the nearest edge. Sidewalks, driveways, hydrants, valve pit covers, valve boxes, curb stop boxes, existing manholes, fire and police call boxes, or other utility controls shall be unobstructed and accessible until the work is completed. Gutters, catch basins, and natural watercourses shall not be obstructed or silted.
- D. When working in close proximity with a creek channel or natural watercourse the Contractor shall pile all excavated material on the side of his excavation away from the watercourse.

3.07 SHEETING AND BRACING.

- A. The Contractor shall furnish, place and maintain such sheeting, bracing, and shoring as may be required to support the sides and ends of excavations in such manner as to prevent any movement which could, in any way, injure the pipe, sewers, masonry, or other work, or endanger existing structures, pipes or pavements; cause the excavation limits to exceed the rights-of-way limits; or to occasion a hazard to persons engaged on the project or the general public.
- B. In no case will bracing be permitted against pipes or structures in trenches or other excavations. All timber sheeting and bracing shall be sound and straight, free from cracks, shakes, and large or loose knots, with dressed edges where directed, and shall otherwise conform with National Design Specifications for Stress Grade Lumber for lumber of a minimum fiber stress of 1,200 pounds per square inch.
- C. Steel sheeting and bracing shall be sound and shall conform with ASTM A328, with a minimum thickness of 3/8-inch. The Contractor shall be solely responsible for the adequacy of all sheeting and bracing.
- D. Sheetng shall be driven as the excavation progresses, and in such manner as to maintain pressure against the original ground at all times. The sheeting shall be driven vertical with edges tight together, and all bracing shall be of such design and strength as to maintain the sheeting in its proper position.
- E. In general, all sheeting and bracing, whether of steel, timber or other material, used to support the sides of trenches or other open excavations, shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a pipe or sewer shall be withdrawn, unless directed, before more than 6-inches of earth is placed above the top of the pipe or sewer and before any bracing is removed. The voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose, or otherwise as may be approved.
- F. If, to serve any purpose of his own, the Contractor files a written request for permission to leave sheeting or bracing in the trench or excavation, the Engineer may grant such permission, in writing, on condition that the cost of such sheeting and bracing be assumed and paid by the Contractor. All such conditions shall be subject to any and all NCDOT requirements.

- G. The Contractor shall leave in place all sheeting, shoring, and bracing which are shown on the Drawings, or specified to be left in place or which the Engineer may order in writing to be left in place. All shoring, sheeting and bracing shown or ordered to be left in place will be paid for under the appropriate items of the Contract. No payment allowance will be made for wasted ends or for portions above the proposed cut-off level which are driven down instead of cut-off.
- H. In case sheeting is left in place, it shall be cut-off or driven down as directed so that no portion of the same shall remain within 12-inches of the finished street or ground surface.

3.08 BACKFILLING.

- A. Backfill around structures may be placed by machine, provided the work shall be done carefully to prevent damage to the structure. In no case shall backfill materials be allowed to fall directly on a structure until at least 12-inches of hand placed material has been placed thereon and compacted.
- B. Backfill around structures shall be deposited in horizontal layers not more than one foot in thickness and shall be compacted to prevent settlement.
- C. All excavations shall be backfilled to the original surface of the ground or to such other grades as may be shown, specified or directed. Backfilling shall be done with suitable excavated materials, approved by the Engineer, which can be satisfactorily compacted during refilling of the excavation. In the event the excavated materials are not suitable, special backfill obtained from approved borrow pits shall be used for backfilling. Frozen earth shall not be used for backfilling.
- D. Backfilling shall be subject to Density Control.

3.09 DENSITY CONTROL.

- A. All earthwork specified for Density Control shall have a minimum dry density of 95 percent of the maximum dry weight density in pounds per cubic foot as determined by the Standard Proctor Compaction Test.
- B. Compaction curves shall be developed for each type of soil proposed for use. The development of the curves from the standard density or compaction test shall be done by an approved testing laboratory at the Contractor's expense.
- C. Field control samples shall be taken as required during construction. Such samples shall be tested by an approved laboratory at the Contractor's expense. If the soil is suitable, in the opinion of the Engineer, Proctor needle tests may be substituted for the field control samples. In such event, the development of the compaction curves shall include a calibration for the needle test, and the Contractor shall furnish a needle and suitable needle points for field use.
- D. For embankments, one test will be taken for approximately every 500 cubic yards of material placed unless field conditions dictate that additional tests are required.

- E. Each layer of material shall be thoroughly tamped or rolled to the required degree of compaction by sheepsfoot or pneumatic rollers, mechanical tampers, or vibrators, unless a satisfactory compaction is obtained by the travel of trucks and earth moving machines. Successive layers shall not be placed until the layer under construction has been thoroughly compacted.
- F. Trucks or other heavy equipment shall not be operated over pipelines until a minimum of 24-inches of backfill above the crown of the pipe has been placed and properly compacted by tampers or other approved methods.
- G. Operation of any construction equipment over the pipe, regardless of the depth of backfill should be done with care and at the Contractor's risk.
- H. Where required, the Contractor shall, at his own expense, add sufficient water during rolling and tamping to assure complete consolidation of the fill material. If, due to a rain or other causes, the material is too wet for satisfactory compaction, it shall be allowed to dry as required, before compaction.

3.10 HAULING MATERIAL ON STREETS.

- A. When it is necessary to haul material over the streets or pavements, the Contractor shall provide suitable tight vehicles so as to prevent deposits on the streets or pavements. In all cases where any materials are dropped from the vehicles the Contractor shall clean up as often as directed and keep the crosswalks, streets and pavements clean and free from dirt, mud, stone, and other hauled material.

3.11 ROADWAYS.

- A. Fill sections of roadways shall be constructed in accordance with applicable provision of Paragraph 3.04, "Embankment".
- B. In cut sections, the subgrade shall be properly shaped and compacted to the minimum dry density for a depth of 6-inches before any base course or surface course of pavement is placed thereon.
- C. When any portion of the subgrade is constructed in a location that conforms to or approximately with, the elevation of the subgrade, the existing surface shall be plowed and manipulated in order that the subgrade when compacted will have a uniform density.
- D. Ditches and drains shall be provided and maintained to satisfactorily drain the subgrade. In no case shall any base course or surface course of pavement be placed on frozen or muddy subgrade.

3.12 SPOIL.

- A. In general, all spoil material shall be placed on the site. Should either the quantity or the composition of the spoil material dictate that it be removed from the site, the Contractor shall obtain a place to accommodate it. Prior to removing the spoil to another area, the Contractor shall transmit to the Engineer, with a copy to the property owner, a signed statement that suitable arrangements have been made with the property owner for placing

the spoil and that neither the Owner nor the Engineer shall be held liable for noncompliance with the arrangement.

- B. The surface of all spoil placed on the site shall be graded and dressed. No unsightly mounds or heaps shall be left on completion of the work. After grading all spoil areas shall be landscaped and seeded in accordance with the Contract Documents.

END OF SECTION 31 01 00

SECTION 31 05 16 – AGGREGATES FOR EARTHWORK

PART 1 – GENERAL

1.01 GENERAL.

- A. This section includes crushed stone aggregates for earthwork.

PART 2 – PRODUCTS

2.01 GENERAL.

- A. Granular materials shall consist of clean, sound, hard stone free from coatings and shall fully comply with the Standard Specifications for Roads and Structures of the North Carolina Department of Transportation. Gradation shall be in accordance with Table 1005-1 & 2 of Section 1005 NC DOT Standard Specifications. The size used shall be as noted on the Contract Drawings or elsewhere in these Specifications.

PART 3 – EXECUTION

3.01 PLACING.

- A. Granular materials shall be placed in horizontal layers, not more than 6-inches in thickness, in a manner to prevent segregation. Each layer shall be thoroughly compacted to prevent settlement.
- B. Any settlement in finished work due to settlement of the compacted granular materials shall be made good by the Contractor at his own expense.

END OF SECTION 31 05 16

DIVISION 32 – EXTERIOR IMPROVEMENTS

SECTION 32 92 00 – TURF AND GRASSES

PART 1 – GENERAL

1.01 GENERAL.

- A. Landscaping shall include rough and fine grading, topsoil if required, fertilizer, lime, seeding and mulching.

PART 2 – PRODUCTS

2.01 FERTILIZER.

- A. The quality of fertilizer and all operations in connection with the furnishing of this material shall comply with the requirements of the North Carolina Fertilizer Law and regulations adopted by the North Carolina Department of Agriculture.
- B. Upon written approval of the Engineer a different grade of fertilizer may be used, provided the rate of application is adjusted to provide the same amounts of plant food.

2.02 LIME.

- A. The quality of lime and all operations in connection with the furnishing of this material shall comply with the requirements of the North Carolina Lime Law and regulations adopted by the North Carolina Department of Agriculture.
- B. During the handling and storing, the lime shall be cared for in such a manner that it will be protected against hardening and caking. Any hardened or caked lime shall be pulverized to its original condition before being used.
- C. Lime shall be agriculture grade ground dolomitic limestone. It shall contain not less than 85 percent of the calcium and magnesium carbonates and shall be of such fineness that at least 90 percent will pass a Number 10 sieve and at least 50 percent will pass a Number 100 sieve.

2.03 SEED.

- A. The quality of seed and all operations in connection with the furnishing of this material shall comply with the requirements of the North Carolina Seed Law and regulations adopted by the North Carolina Department of Agriculture.
- B. All seeding activities shall include permanent seed for primary stabilization and temporary seed for immediate ground stabilization.
- C. Seed shall have been approved by the North Carolina Department of Agriculture or any agency approved by the Engineer before being sown, and no seed will be accepted with a date of test more than eight months prior to the date of sowing. Such testing, however, will not relieve the Contractor from responsibility for furnishing and sowing seed that meets these specifications at the time of sowing. When a low percentage of germination causes the quality of the seed to fall below the minimum pure live seed specified, the Contractor may elect, subject to the approval of the Engineer, to increase the rate of application

sufficiently to obtain the minimum pure live seed content specified, provided that such an increase in the rate of application does not cause the quantity of noxious weed seed per acre or square yard, as the case may be, to exceed the quantity that would be allowable at the regular rate of application.

- D. During handling and storing, the seed shall be cared for in such a manner that it will be protected from damage by heat, moisture, rodents, or other causes.
- E. Seed shall be entirely free from bulblets or seed of Johnson Grass, Nutgrass, Sandbur, Wild Onion, Wild Garlic, and Bermuda Grass. The specifications for restricted noxious weed seed refers to the number per pound, singularly or collectively, of Blessed Thistle, Wild Radish, Canada Thistle, Corncockle, Field Bindweed, Quackgrass, Dodders, Dock, Horsenettle, Bracted Plantain, Buckhorn, or Wild Mustard; but in no case shall the number of Blessed Thistle or Wild Radish exceed 27 seeds of each per pound. No tolerance on weed seed will be allowed.

PART 3 – EXECUTION

3.01 FERTILIZING, SEEDING AND MULCHING.

- A. Established lawns and landscaped areas damaged by construction shall be restored to their former condition by seeding, unless the type and condition of the existing sod warrants it being cut, removed, preserved, and replaced. All areas, regardless of previous condition, damaged by construction shall be fertilized, seeded, and mulched as outlined below:
 1. Seed Bed Preparation: The seed bed shall be prepared by pulverizing the soil in an approved manner to a depth of three (3) inches for field conditions or slopes that are 3:1 or flatter and to a depth of one (1) to three (3) inches, as determined on site for slopes steeper than 3:1. The soil shall be tilled until a well pulverized, firm, reasonably uniform seed bed is prepared conforming substantially to ground elevations as shown on the Plans and/or as existed prior to construction. The disturbed area shall blend uniformly into adjacent topography. Good surface drainage must be provided, allowances for settlement made and ground elevations adjusted accordingly. Visible ponding will not be allowed. All stones, roots, sticks, rubbish, and other objectionable material shall be removed.
 2. Soil Improvements: Soil additives shall be incorporated in an approved manner into the top soil at the following rates:
 - a. Fertilizer - 20 pounds per 1000 square feet of 5-10-10 fertilizer generally and 30 pounds per 1000 square feet of 10-10-10 fertilizer for established lawn areas.
 - b. Lime - 100 pounds per 1000 square feet.
 - c. Superphosphate (0-20-0) - 12 pounds per 1000 square feet.
 3. Seeding must be done within thirty (30) calendar days after the initial ground disturbing activity.
 - a. The seed bed must be in good, friable condition and not muddy or hard at the time seeding is performed.

- b. Seed shall be applied at the rate specified and raked or tilled into the topsoil with the resulting furrows running across the natural slope of the ground. Under no circumstances will any tilling activity be allowed parallel with said slope.
 - c. Slopes steeper than 3:1 shall require the use of hydraulic seeding unless otherwise specifically approved by the Engineer.
4. Mulching: After fertilizing, seeding and raking, dried straw shall be spread uniformly over the area at a rate of 90 pounds per 1000 square feet. Approximately 1/4 of the ground should remain visible to avoid smothering seedlings. The straw shall be sprayed with liquid asphalt to bond it together and anchor it in place within road right-of-way and areas subject to erosion.
5. Maintenance: The Contractor shall maintain the seeded areas until there is a uniform growth three (3) inches high. Maintenance shall consist of watering, weed and pest control within established lawns, fertilization, erosion repair, reseeding and all else necessary to establish a vigorous healthy and uniform stand of grass. All areas and spots which do not show a uniform stand of grass, for any reason, shall be treated repeatedly until a uniform stand is attained.
6. Seasonal seeding mixtures and rates of application shall be as follows. All rates are in pounds per 1000 square feet and any rates listed below may be cut by 1/2 for temporary erosion control measures only.

September 15 - March 1:

a. Maintained/Established Lawns or road rights-of-way

- 1) 6# Kentucky Fescue No. 31
- 2) 2# Rye Grain
- 3) 30# Fertilizer (10-10-10)
- 4) 100# Lime
- 5) 12# Superphosphate

b. Open-Field (Anything other than an established lawn)

- 1) 4# Kentucky Fescue No. 31
- 2) 2# Rye Grain
- 3) 20# Fertilizer (5-10-10)
- 4) 100# Lime
- 5) 12# Superphosphate

c. Open-Field For Slopes 2:1 or greater or areas subject to erosion

- 1) 2# Kentucky Fescue No. 31
- 2) 4# Sericea Lespedeza (Unscarified)
- 3) 2# Rye Grain
- 4) 30# Fertilizer (5-10-10)
- 5) 100# Lime
- 6) 12# Superphosphate

February 1 – October 15

- a. Maintained/Established Lawns or road rights-of-way
 - 1) 8# Kentucky Fescue No. 31
 - 2) 30# Fertilizer (10-10-10)
 - 3) 100# Lime
 - 4) 12# Superphosphate
 - b. Open-Field (Anything other than an established lawn)
 - 1) 6# Kentucky Fescue No. 31
 - 2) 2# Sudangrass (May, June, and July only)
 - 3) 20# Fertilizer (5-10-10)
 - 4) 100# Lime
 - 5) 12# Superphosphate
 - c. Open-Field For Slopes 2:1 or greater or areas subject to erosion
 - 1) 2# Kentucky Fescue No. 31
 - 2) 4# Sericea Lespedeza (Scarified)
 - 3) 2# Sudangrass (May, June, and July only)
 - 4) 20# Fertilizer (5-10-10)
 - 5) 100# Lime
 - 6) 12# Superphosphate
7. The Engineer will be consulted prior to seeding for a determination of appropriate seed mixture.

8. Unless otherwise required by the North Carolina Department of Transportation or the Engineer seeding within road rights-of-way will be as specified for established lawns.

END OF SECTION 32 92 00

DIVISION 33 – UTILITIES

SECTION 33 05 07 – TRENCHLESS UTILITY INSTALLATION

PART 1 – GENERAL

1.01 GENERAL.

- A. This section shall include construction methods for pipelines installed by jacking, or boring, in the locations and between the limits as shown on the Contract Drawings.
- B. The Contractor shall inspect the locations at the proposed crossings and shall familiarize himself with the conditions under which the work will be performed, and with all necessary details and the suitability of his equipment and methods for the work required.
- C. In addition, the requirements specified herein, all work is subject to other conditions from the applicable agencies including the North Carolina Department of Transportation (NCDOT).
- D. Any costs associated with rock excavation and disposal shall be included under this section. No additional payment will be made for this work.

1.02 EXPERIENCE.

- A. The Contractor may install the pipeline with his own organization provided he has been engaged in the construction of installations of a similar nature for a period of three years and can furnish a record of successful performance.
- B. If the Contractor does not meet the qualifications outlined above, he shall employ a subcontractor, who has had the required experience. Evidence of the Contractor's or subcontractor's experience shall be submitted as requested by the Engineer.

1.03 CONSTRUCTION METHODS.

- A. The type of construction used shall be as shown or specified on the Contract Drawings. Any approval by the Engineer to allow the Contractor to use a construction method other than that shown or specified will be granted only upon receipt of a written request from the Contractor.
- B. Installation of the pipeline shall be carried out without disturbance of the embankment, pavement, tracks, or other railroad or highway facilities and without obstructing the passage of traffic at any time.

PART 2 - PRODUCTS

2.01 CASING PIPE.

- A. Casing pipe shall be of the type, size and class as shown on the Drawings. All casing pipes shall in all respects conform to the applicable portions of the Contract Documents. The steel casing pipe shall have a minimum yield strength of 35,000 psi and a minimum ultimate strength of 60,000 psi. The casing pipe shall have a protective coating consisting of coal-tar primer followed by hot coal-tar enamel at least 1/16-inch thick, or approved equal.

- B. Unless otherwise specified all casings shall be a minimum of 1/4-inch thickness and comply with NCDOT standards.

PART 3 – EXECUTION

3.01 BORING.

- A. The boring machine shall be accurately aligned before the boring is commenced, and the Contractor shall take such necessary steps as required to accurately place the casing with respect to line and grade. As the boring operation progresses, each new section of the encasement pipe shall be butt welded to the section previously jacked into place. The boring auger shall not be of a greater diameter than the outside diameter of encasement. The leading edge of the steel casing shall be kept as close to the cutting head as possible and shall be advanced at the same rate of speed as the cutting head in order to minimize any unsupported holes in the earth. All voids are to be filled with grout at 50 psi pressure to ensure that there will be no settlement of the roadway.

3.02 JACKING.

- A. To ensure that a relatively uniform distribution of the axial load round the periphery of the pipe is maintained, the Contractor shall ensure that the jacking force is properly distributed through the jacking frame to the pipe and parallel with the axis of the pipe. The pipe ends shall be maintained parallel within the tolerances prescribed by ASTM 76. The pipe shall be jointed by placing a bituminous coated or tarred rope around each tongue. The inner surfaces of all joints shall be filled with mortar and brushed smooth.
- B. The leading edge of the pipe shall be equipped with a cutter or shoe to protect the pipe. As the pipe is jacked forward, the material shall be trimmed and removed through the pipe. Care shall be taken to ensure that excavation does not precede the jacking operation more than necessary.

3.03 PIPELINE INSTALLATION.

- A. After completion of the casing, the Contractor shall insert the pipeline in prejointed segments.
- B. After placing and jointing the pipeline, the ends of casing pipes shall be closed with brick masonry bulkheads.

END OF SECTION 33 05 07

SECTION 33 05 61 – MANHOLES, VAULTS, FRAMES, AND COVERS

PART 1 – GENERAL

1.01 GENERAL.

- A. Manholes, vaults, and inlets shall include standard and drop manholes, valve and meter vaults, catch basins, curb inlets, surface water inlets, and similar structures, complete with frames and covers, manhole steps and appurtenances.

PART 2 – PRODUCTS

2.01 STRUCTURES.

- A. Manholes, vaults, and inlets shall be constructed of precast concrete as shown on the Contract Documents. Concrete construction shall be as specified under the Section headed, "Concrete". Brick and precast concrete construction shall be as hereinafter specified.
- B. The Contractor shall furnish and install up to three brick courses as required to adjust the frames of all manholes, vaults, and inlets to grade. No extra payment will be made for such brick courses. Precast concrete rings may also be utilized.
- C. The Contractor shall furnish and build into the work all the necessary inlet and outlet connections, manhole steps, frames and covers, sleeves and appurtenances as shown or specified. Concrete floors of manholes and vaults shall be broom finished.
- D. Drop manholes shall consist of a standard manhole having a drop pipe, restrained with mega-lugs, constructed on the outside of the manhole, as shown. The pipe specials at the top and bottom of the drop, and the straight pipe used in the drop for the drop pipe shall be included and constructed as part of the manholes.
- E. Manholes, vaults, and inlets shall be tested for water tightness as specified herein.

2.02 BRICK MASONRY FOR LEVELING FRAMES.

- A. Masonry for leveling frames and covers shall include brick courses for concrete manholes, where required, to bring the frames and covers to grade, and the building in of metal castings, pipes, sleeves, and other items required in the work, complete as shown, specified, and directed. All common brick shall be ASTM Designation C-62, Grade SW.

Mortar mix shall be:

1 sack of masonry cement (94 pounds)

3 cubic feet of dry sand (240 pounds)

- B. Masonry cement shall be in accordance with ASTM Designation C-91, Type II. Sand shall be of graded quality conforming to the requirements of ASTM Designation C-144. Water shall be clean, potable water, free from injurious or deleterious materials.

- C. All bricks shall be of the best quality, hard burned brick, shall be whole, sound, straight, hard, uniform in structure, with true faces and shall be of standard size.
- D. Bricks shall be sampled and tested for absorption in accordance with ASTM Designation C-67. Absorption shall not exceed nine percent. Tests shall be at an independent testing laboratory and all tests shall be at the expense of the Contractor. Certified test reports shall be furnished to the Engineer.
- E. The bricks shall be laid in mortar of a kind and quality above specified. They shall be laid with a shove joint and all spaces between bricks shall be solidly and completely filled with mortar. The bricks shall be laid to a line, with the bed in the line of the radii of the curves, and with close joints not exceeding 1/4-inch. Bricks shall be thoroughly moistened before laying. Each brick shall be completely bedded in mortar at its bottom side and end, at one operation. Joints on face work shall be struck and neatly pointed. Care shall be taken to have the interior surface smooth and regular. Competent masons shall be employed for this work.
- F. No masonry shall be erected when the temperature has dropped below 45 degrees Fahrenheit unless it is rising and at no time when it has dropped below 40 degrees Fahrenheit, except by permission of the Engineer. When masonry work is permitted below 40 degrees Fahrenheit, provisions shall be made for heating and drying the materials and the completed work shall be protected in accordance with the Structural Clay Products Technical Institute Notes, Volume 1, No. 1. Masonry shall not be laid with ice or frost on its surface and no masonry shall be laid on frozen work. Any work which freezes before the mortar has set shall be removed and replaced at the Contractor's own expense.
- G. The outside faces of the brick work of each manhole shall be neatly plastered with mortar not less than 3/8-inch thick, of the quality above specified, and trowelled smooth.
- H. All fresh work shall be protected from injury of all kinds and any injured work shall be made good by the Contractor in a manner satisfactory to the Engineer. All new work, unless immediately covered with earth, shall be kept moist until the mortar has become hard and will not crack in the sun.

2.03 PRECAST CONCRETE SECTIONS.

- A. Precast concrete manhole risers shall be the approved standard design of the manufacturer and shall conform to ASTM Designation C-478 of the latest revision for Precast Reinforced Concrete Manhole Sections, except as modified herein. Unless otherwise noted in the Contract Drawings, all precast reinforced concrete manhole risers shall have a minimum nominal inside diameter of 48-inches and a wall thickness of 5-inches.
- B. Minimum compressive strength of concrete shall be 4,000 psi and the maximum permissible absorption shall be eight percent. Risers shall be reinforced with a single cage of steel placed within the center third of the wall. The tongue or the groove of the joint shall contain one line of circumferential reinforcement equal in area to that in the barrel of the manhole riser. The minimum cross-sectional area of steel per lineal foot shall be 0.12 square inches for sizes up to and including 54-inches in diameter and 0.17 square inches for larger sizes.
- C. Tapered sections, where required, shall be of truncated cone design, having the same wall thickness and reinforcement as the cylindrical ring sections.

- D. Precast reinforced concrete manhole base sections shall be cast monolithic, have flat bottoms and a 6-inch thick reinforced concrete base slab. The same steel requirement shall apply to precast manhole bases as applies to riser sections and the base steel shall be tied or welded to the riser steel.
- E. At the option of the Contractor, precast reinforced concrete manhole sections may be constructed on poured-in-place concrete slab foundations.
- F. New sewers or pipelines shall be connected to the precast concrete manhole with flexible pipe connections conforming to ASTM C-923. Openings of approved size shall be provided in the base sections as required to straddle existing sewers or pipelines or drop pipes in drop manholes. Openings cut into manhole sections for drop connections must be cut with extreme care to avoid damage to the manhole. The method of cutting these openings shall be approved by the Engineer.
- G. Precast reinforced concrete manhole sections, unless otherwise specified, shall have steps with maximum vertical spacing of 16-inches. The steps shall be copolymer polypropylene plastic, reinforced with one-half inch diameter steel bar, grade 60. The steps shall be capable of resisting a pull out force of 1,500 pounds and an impact of 300 foot pounds with only minor deflection and no cracking. The steps shall have serrated tread and end lugs to prevent feet from slipping off the step. The steps shall be either precast into the manhole risers or bases or secured with cadmium plated anchor bolts to expansion anchors and tressed inserts precast with the section.
- H. Precast concrete manhole sections shall fit together readily and unless specifically noted, the connections shall be either jointed with approved non-shrink cement mortar and self-contained "O" ring gaskets conforming to ASTM Designation C-361, date of latest revision. Top sections shall have a surface suitable to receive brick masonry levelling courses, precast slab, or manhole frame and cover.
 - I. A 6-inch external joint/seam wrap shall be installed on all precast concrete joints.

2.04 CASTINGS.

- A. Manhole frames and covers, grates, inlets, steps, and other castings shall be in accordance with ASTM Designation A-48, Grade 30. All manhole frames and covers shall have machined bearing surfaces. Manhole frames and covers shall have a minimum weight of 310 pounds unless otherwise designated.
- B. Manhole covers shall have the words "Sanitary Sewer" or other appropriate designation cast into cover.

PART 3 – EXECUTION

3.01 COMPLETION.

- A. Manholes, vaults, and inlets shall, in all cases, be completely constructed and fitted with their frames and covers as the work progresses and as each structure is reached. After final inspection and acceptance of the pipeline or other facility served by the manholes, vaults, and inlets, the Contractor shall, unless otherwise directed, seal all covers with an approved fibrated mastic compound.

- B. All manholes shall be vacuum tested before backfilling in accordance with ASTM 1244. Pipes entering manholes shall be plugged and a vacuum of 10-inches of mercury shall be created on inside of manhole. The amount of time for the vacuum to drop to 9-inches shall be recorded. The allowable time for 4-foot diameter manholes is 60 seconds. The allowable time for 6-foot diameter wet well shall be 90 seconds. The contractor shall supply all equipment.

END OF SECTION 33 05 61

SECTION 33 31 00 – SANITARY SEWERAGE PIPING

PART 1 – GENERAL

1.01 GENERAL.

- A. This section includes the installation of all sanitary sewer pipelines.
- B. Pipelines shall be located with adequate clearance from adjacent structures and other pipelines. For pipe with nominal ID of 20-inches or smaller the minimum clearance shall be 6-inches; for pipe 21-inches ID or larger, the minimum clearance shall be 12-inches.
- C. Sanitary sewer lines shall be kept at minimum clearances in accordance with Title 15A, Subchapter 2T of the North Carolina Administrative Code. Sanitary sewers that cannot meet the separation requirements shall meet the applicable alternatives.

PART 2 – PRODUCTS

2.01 DUCTILE IRON PIPE.

- A. Ductile iron piping shall include all ductile iron pipe and fittings, except for cast iron soil pipe. All pipe and fittings shall be cast in one piece, except for flanged pipe which shall have screw-on flanges or grooved pipe fittings which shall have cast fittings.
- B. All ductile iron pipe shall be centrifugally cast in accordance with ANSI/AWWA Specifications C151/A21.51, and shall be of Class 350, unless different classes are scheduled herein. Appurtenances for iron pipe shall comply with the following standards or latest revision thereof:
 1. Steel for Bolts, Studs & Nuts - ASTM Designation A 307, Grade "B"
 2. Fittings - AWWA C110, C111, C153 & ANSI A21.11, A21.53
 3. Cement Mortar Lining - AWWA C104 & ANSI A21.4
 4. All fittings shall be of the short body pattern unless long body fittings are shown on the Contract Drawings.
- C. The following joint types shall be used for ductile iron pipe.
 1. Flanged pipe shall have flanges with long hubs, shop fitted on the threaded end of the pipe. All flanges shall be faced and drilled to the 125-pound American Standard drilling, unless special drilling is shown, specified or required. Where required, flanges shall be tapped for stud bolts. Flanges shall be accurately faced at right angles to the pipe axis and shall be drilled smooth and true, and covered with coal tar pitch varnish or otherwise protected against corrosion of flange faces. Flange faces shall be cleaned to bare metal with wire brushes before installation of the piping.
 2. In general, flanged joints shall be made up with through bolts of the required size. Stud or tap bolts shall be used only where shown or required. Steel bolts and nuts shall be electro-plated zinc, with good and sound, well fitting threads, so that the nuts may be

turned freely by hand. Zinc plating shall be by an approved process with a plate thickness of 0.0003 to 0.0005 inches.

3. Gaskets for flanged joints shall be the ring type, of cloth inserted rubber. Gaskets shall be 1/8-inch thick.
4. Connecting flanges shall be in proper alignment and no external force shall be used to bring them together. Bolts and gaskets shall be furnished by the installer of piping for joints connecting the piping with equipment, as well as for those between pipe and fittings, whether such equipment and piping is furnished by the installer or not.
5. Mechanical joints shall be ANSI/AWWA C111/A21.11. Joints shall be made up in accordance with the industry standard recommendations. All bolts shall be tightened by means of torque wrenches in such a manner that the follower shall be brought up toward the pipe evenly. If effective sealing is not obtained by tightening the bolts to the specified torques, the joint shall be disassembled and reassembled after thorough cleaning.
6. Slip or "push-on" joints shall be manufactured in accordance with ANSI/AWWA C111/A21.11. Bells of "slip" joint pipe shall be contoured to receive a bulb-shaped, circular rubber gasket, and plain ends shall have a slight taper to facilitate installation. The lubricant used in making up the joints shall be furnished by the pipe manufacturer. The jointing shall be done by guiding the plain end into the bell until contact is made with the gasket and by exerting a sufficient compressive force to drive the joint home until plain end makes full contact with the base of the bell. Manufacturer's recommendations for lubricating joints shall be followed.
7. Where shown on the Contract Drawings or specified herein, grooved joints as manufactured by Victaulic may be substituted for flanged fittings. Pipe shall be cast and cut in accordance with ANSI/AWWA C151/A21.51 and ANSI/AWWA C-606 standards for grooved pipe joints. Couplings and fittings shall be of ductile iron conforming to ASTM A-536 or other suitable material as approved by the Engineer. Gaskets shall be supplied by the fitting manufacturer, shall be suitable for the intended purpose and meet applicable ANSI/AWWA standards. Fittings and couplings must be able to fulfill the requirement for test pressures as scheduled herein. Painting shall match that of adjacent piping and shall be as scheduled.
8. Unless otherwise indicated on the Contract Drawings, all restrained joints shall utilize mechanical locking systems resulting in a metal-to-metal joint restraint that prevents the pipe joint from separating. The restraint system shall be capable of withstanding thrust forces created by internal pressures up to twice the rated pressure of the pipe. The primary means of joint restraint shall be a factory welded ring or lugs on the spigot end of the pipe, interlocked with the bell of the mating pipe. Joints shall be "TR-Flex" as manufactured by U.S. Pipe Company, "Flex-Ring" or "Lok-Ring" as manufactured by American Ductile Iron Pipe Company or approved equal. The use of retaining glands with set screws, cam or wedge locking gaskets or other means of restraint shall not be permitted except where specifically shown on the Contract Drawings.

- D. Unless otherwise shown, all gravity sewer ductile iron pipe and fittings shall have a bituminous outside coating with a minimum thickness of 1 mil. The inside shall have a 401 ceramic epoxy with a minimum thickness of 40 mil.

2.02 WALL CASTINGS, SLEEVES, AND SPECIAL FITTINGS.

- A. Where shown on the Contract Drawings, wall castings shall be provided for iron piping which pass through the walls of structures below grade. Wall castings shall be provided with integral waterstops. In all other cases, iron pipes which pass through walls or floors of structures shall be installed in sleeves.
- B. Where sleeves are installed in exterior walls of structures or where water or gas tightness is required, the space between the pipe and the sleeve shall be caulked on both sides.
- C. Unless otherwise shown, sleeves may be either Class "B" cast iron solid sleeves, or may be fabricated from Schedule 40 - Wrought Steel Pipe. Floor sleeves shall have floor and ceiling plates where finished appearance is required. Where no floor plates are required, sleeves shall extend 6-inches above the finished floor.
- D. Special fittings, where required, shall be of an approved design, and shall have the same diameters and thickness as standard fittings.

2.03 POLYVINYL CHLORIDE FOR GRAVITY SEWERS.

- A. Polyvinyl chloride (PVC) gravity sewers 15-inch and smaller shall be SDR 26 unplasticized polyvinyl chloride pipe.
- B. PVC pipe shall be made for PVC plastic having a cell classification of 12454B or 12454C, or 13364B as defined in Specification D 1784. Compounds that have different cell classifications because one or more properties are superior to those of the specified compounds are also acceptable. Clean reworked material generated from the manufacturers own pipe or fittings production may be used provided that the pipe or fittings meet all the requirements of ASTM D-3034 or ASTM F-679.
- C. PVC pipe shall be capable of withstanding a two hour immersion test in a sealed container of 99.5 percent pure Anhydrous Acetone and show no signs of flaking on interior or exterior when tested in accordance with ASTM D-2152.
- D. PVC pipe strength shall be capable of withstanding stiffness, flattening and impact tests as scheduled or referenced in ASTM D-3034 or F-679.
- E. Pipe shall be joined with an integral bell and spigot type rubber gasketed joint. Gaskets shall conform to ASTM F-477.
- F. All pipe furnished under these specifications shall have a maximum deviation from straightness of 1/16 of one inch per foot.
- G. All PVC pipe shall have a minimum pipe stiffness of 115 psi when measured at 5 percent vertical ring deflection and tested in accordance with ASTM D-2412.

- H. Tests for cell classification, stiffness, paralleled plate loading and linear straightness shall be performed by an independent certified laboratory on a minimum of 0.5 percent of the total quantity of each size of pipe furnished. A minimum of three (3) joints of each size shall be tested.
- I. PVC pipe shall be installed in accordance with ASTM-D2321 as modified herein and as shown on the Plans.
- J. Manhole connections shall be made by means of a bell-spigot piece, with a rubber waterstop. The bell and spigot shall be flush with the manhole outside wall. The waterstop shall be fastened to the bell by a stainless steel strap or other suitable means and centered in the manhole wall. The spigot end shall be furnished with an "O" ring and a retainer ring.
- K. Maximum allowable pipe deflection shall be five (5) percent. A deflection test shall be performed by the Contractor with a pin-type "GO/NO GO" gauge. Gauge shall have an outside diameter 5% less than pipe size. The gauge and all accessories needed to complete test shall be provided by the contractor. All pipe failing the deflection tests shall be removed, reinstalled, and retested at no additional cost to the Owner.

2.04 POLYVINYL CHLORIDE FOR FORCE MAINS.

- A. This section shall cover unplasticized polyvinyl chloride (PVC) pressure pipe with integral bell containing a locked-in ring and spigot joints for the conveyance of fluids under pressure.
- B. Pipe shall meet the requirements of ASTM 2241 "Polyvinyl Chloride (PVC) Pressure Pipe". Pipe class shall be C900.
- C. All pipe shall be suitable for use as pressure conduit. Provisions must be made for expansion and contraction at each joint with an elastomeric ring. The bell shall consist of an integral wall section with a locked-in solid cross section elastomeric ring which meets the requirements of ASTM F-477. The bell section shall be designed to be at least as hydrostatically strong as the pipe wall.
- D. Polyvinyl chloride pressure pipe shall be compatible for use with ductile or cast iron fittings complying with applicable AWWA standards.

2.05 CENTRIFUGALLY CAST FIBERGLASS REINFORCED POLYMER MORTAR PIPE FOR GRAVITY SEWERS.

- A. This section shall cover centrifugally cast fiberglass reinforced polymer mortar (CCFRPM) pipe for gravity sewer installations. CCFRPM pipe shall be furnished complete with all jointing materials and other necessary appurtenances.
- A. Pipe shall be tested in accordance with the pipeline pressure and leakage testing section.
- B. Pipe trenching, bedding, and backfill are covered in the earthwork section and as shown on the Contract Drawings.
- C. The pipe shall be CCFRPM pipe manufactured in accordance with ASTM D3262 – Standard Specifications of Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe as manufactured by HOBAS Pipe USA, Inc.

- D. The pipe shall have a minimum stiffness of 72 psi when tested in accordance with ASTM D2412 – Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.
- E. The pipe shall be comprised of chemically resistant polyester resin, grade E-glass filaments, silica sand and any necessary additives centrifugally cast into a non-porous corrosion-resistant composite structure suitable for the intended application.
- F. Joints shall be fiberglass sleeve-type couplings with EPDM rubber gaskets meeting the requirements of ASTM D4161 – Standard Specifications for Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Joints Using Flexible Elastomeric Seals.
- G. Complete layout drawings, details, and specifications covering all CCFRPM pipe and accessories shall be submitted in accordance with the submittals section.
- H. When requested by the Engineer, certified copies of physical and chemical test results shall be submitted for the materials to be provided.

2.06 FLEXIBLE PIPE COUPLINGS.

- A. Flexible pipe couplings shall include sleeve type couplings for interior service, cast solid sleeves for buried service, clamp type couplings, rubber expansion couplings, and expansion joints.
- B. Where couplings are shown for interior service, sleeve type couplings of steel or ductile iron shall be provided for the joining of the plain end iron pipe. Sleeve type couplings shall be designed to fit the outside diameters of the pipe to which they connect. Ductile iron sleeves shall be used for pipes 4 through 16 inches in diameter. Steel sleeves may be used for pipes larger than 16 inches. Each coupling shall consist of a middle ring, two molded rubber gaskets, two follower rings, and sufficient galvanized or cadmium plated bolts and nuts to insure a complete watertight installation capable of withstanding pressures equal to that of pipeline coupling is installed.
- C. Where sleeves are shown for exterior, buried or submerged service, solid ductile iron sleeves shall be provided. Solid sleeves shall conform to AWWA Specification C-110, Long Body, unless otherwise specified.
- D. Groove couplings shall be of malleable iron, in two or more parts, to mechanically engage and lock grooved or shouldered pipe ends, with a single composition sealing gasket, and two or more track-head steel bolts and nuts for tightening assembly. Groove couplings shall be Style 31 as manufactured by the Victaulic Company of America, or approved equal. Clamps shall be self-centering over pipe ends, with a sealing gasket of rubber. Malleable iron clamps shall meet the requirements of ASTM Designation A-47. Bolts for clamps shall be in accordance with ASTM Designation A-183, with a minimum tensile strength of 110,000 psi. All clamp bolts and nuts shall be cadmium plated.
- E. Rubber expansion couplings shall be of the standard or tapered spool type and shall be equal to Mercer Rubber Company Style 500 or approved equal. Where used on sewage or sludge gas lines, the rubber lining shall be resistant to sewage or sludge gas action. Outer covers

shall be oil resistant. The tube of the joint shall be of single piece rubber construction extending to the outside edges of the flanges. The flanges shall be full-faced with fabric reinforced rubber. Metal retaining rings shall be split type, of flat rolled steel, beveled and galvanized. Bolt circle shall be 125 pound American Standard Drilling. Bodies adjoining rubber arches shall have wire ring reinforcing for sizes under 4-inches inside diameter and metal ring reinforcing for sizes under 4-inches inside diameter and metal ring reinforcing for sizes 4-inches inside diameter and over.

- F. Expansion joints shall be internally guided sleeve type, and shall be packed with materials which are suitable for the intended service. Expansion joints 2-inches and smaller shall be all bronze, and shall have male threaded ends. Expansion joints 3-inches and larger shall be iron body and shall have flanged ends. All expansion joints shall be designed to withstand the test pressure of the pipeline that expansion joint is installed.
- G. Where shown or specified, sleeve type couplings and rubber expansion couplings shall be harnessed by means of welded steel lugs and harness rods. The lugs and welds shall develop the full strength of the harness rods, and where used on galvanized pipelines shall be galvanized after welding.
- H. Harness rods shall be of heat treated steel with a minimum yield strength of 70,000 psi and a minimum ultimate strength of 110,000 psi, and shall be threaded with American Standard Coarse Threads. Nuts shall be of the same material as the rods and shall be hexagonal. Harness rods and nuts shall be galvanized or cadmium plated.
- I. All flexible couplings shall be installed in pipelines in accordance with the manufacturer's directions. Couplings shall be free from support of carrying any weight of adjoining pipe or fittings.
- J. All steel parts of flexible pipe couplings to be installed in exposed locations, except those to be galvanized or cadmium plated, shall be shop painted with a rust-inhibitive coat of priming paint.

PART 3 – EXECUTION

3.01 SUBGRADE PREPARATION.

- A. Pipelines and appurtenant structures shall be located as shown on the Contract Drawings or otherwise fixed by the Engineer in accordance with provisions of the Contract.
- B. All pipe shall be on a prepared bed. Where improved bedding is required, the trench subgrade will be determined by the type bedding required.
- C. Subgrade preparation for the pipe shall be performed immediately prior to installing the pipe in the trench. The trench bottom shall be accurately shaped by means of hand tools to conform to the full bottom segment of the pipe barrel in such a manner that a uniform and continuous bearing and support on solid and undisturbed ground is provided for each pipe for its entire length between bells. The subgrade shall allow the pipe to be accurately aligned with the adjacent pipe bell without transmitting the weight of the pipe to the receiving bell through the joint material. Correction of a subgrade that is too low shall be done only by placing and compacting suitable material over the entire width of trench and regrading.

- D. Bell holes shall be excavated immediately prior to laying the pipe and shall be only of sufficient size so that no part of the pipe bell will be in contact with the trench bottom or granular fill.
- E. Ledge rock, shale, boulders, and large stones shall be removed from the sides and bottom of the trench to provide bottom and side clearances for the pipe. For pipe with nominal ID of 20-inches or smaller the minimum clearance shall be 6-inches; for pipe 21-inches ID or larger, the minimum clearance shall be 12-inches.
- F. Selected earthen material, approved by the Engineer, or granular material shall be used to fill voids left by removal of rock or other material from below the subgrade. No additional compensation will be made for this material.

3.02 PIPE INSTALLATION.

- A. Except as otherwise specified, ductile iron pipelines shall be installed in accordance with AWWA Specification C-600. Care shall be taken during loading, transportation, unloading, and installation to prevent damage to the pipes or coatings. All pipe and fittings shall be carefully examined before installing and no piece shall be installed which does not conform to the appropriate ASTM Specification.
- B. Pipes shall be laid to the required lines and grades on prepared subgrade or improved bedding. Any bed disturbed during the installation of the pipe shall be repaired prior to embedment of the pipe. Pipe shall be protected from lateral displacement by placing the specified pipe embedment material. Under no circumstances shall pipe be laid in water, and no pipe shall be laid under unsuitable weather or trench conditions.
- C. Except where the pipe is to be laid with concrete embedment or encasement, blocking of the pipe will not be permitted. Where the pipe is to be laid with concrete, the pipe shall be laid to grade and supported on approved blocks and securely braced in all directions to prevent movement.
- D. No pipe shall be laid upon a foundation where frost exists, nor any time when the Engineer shall deem that there is a danger of formation of ice, or the penetration of frost at the bottom of the excavation.
- E. The pipe shall be installed with the bell ends in the direction of laying. Pipeline for sewers shall begin at the low end of the run and all pipe shall be laid with the bells or sockets uphill.
- F. If any defective pipe or fittings are discovered after installation, they shall be removed and replaced with sound pipe and fittings or shall be repaired by the Contractor in an approved manner and at his own expense.
- G. When joined in the trench, the pipe shall form a smooth line and shall be fitted together so that the alignment and slope are correct. Pipe shall not be trimmed except for closure, and pipe not making a good fit shall be removed. No pipe shall be laid until the preceding length has been completely aligned and secured. The installed pipe shall not be disturbed in any manner and its proper grade and alignment shall be maintained during pipe joining, pipe embedment, and backfilling operation.

- H. The interior surface of all pipes shall be cleaned when installed and shall be kept clean until final acceptance. Temporary bulkheads shall be placed in all open ends of pipelines when pipe laying is not actively in progress. The bulkheads shall be designed to prevent the entrance of dirt or debris and shall not be removed until pipe laying is resumed. Where danger of water entering the pipeline may exist, the bulkheads shall be designed to prevent the entry of water. Adequate precaution shall be taken by the Contractor to prevent flotation of pipes in the event of water entering the trench.
- I. If laser alignment equipment is used, periodic elevation measurements shall be made with surveying instruments to verify accuracy of grades. If such measurements indicate thermal deflection of the laser beam due to differences between ground temperature and the air temperature within the pipe, precautions shall be taken to prevent or minimize further thermal deflections.
- J. A 14-gauge green stranded copper tracer wire shall be taped to top of all pipe regardless of material. Wire shall extend up to surface at all valve and manhole locations not to exceed 500 feet apart. Where no valves or manholes exist, the tracer wire shall be equipped with test stations no more than 500 feet apart. At a minimum, test stations shall utilize 2-inch PVC pipe extended to the surface with a removable cap. A detectable tracer tape shall be installed directly above and parallel with all force mains. The tape shall be buried approximately eight inches below finished grade. The tracer tape shall be a continuous 2-inch wide strip of tough inert plastic bonded to aluminum or copper. The color shall be bright orange with 1-1/2-inch high block lettering repeated every 20 to 30 feet identifying the pipe below.

3.03 PIPE EMBEDMENT.

- A. Embedment shall be defined as that portion of the trench from the subgrade to an imaginary line drawn 18-inches above the top of the pipe. Embedment materials shall be excavated soil if suitable or if not suitable, shall be of washed stone or other material specified herein or detailed on Contract Drawings.
- B. Deposition and compaction shall be done simultaneously and uniformly on both sides of the pipe so as to insure adequate lateral and vertical stability of the installed pipe during subsequent joining, embedment and backfill operations. In no case will impact or unbalance deposits of materials be allowed.
- C. Pipe embedment shall be subject to Density Control as specified herein.

3.04 CONNECTION TO EXISTING FACILITIES.

- A. Where sewers are to be connected to existing manholes or other structures, and where no stub or opening has been provided for the connection, the Contractor shall make an opening of minimum diameter through the side wall of the structure for inserting the sewer pipe. After inserting the pipe, the space remaining outside the pipe shall be completely filled with a non-shrinking mortar and made watertight.
- B. Benchwalls in existing structures shall be altered to form a trough, so that new sewer connection will enter the existing sewer at a 45 degree angle in the direction of flow.

- C. In making connections to existing manholes, structures, or pipe, care shall be taken to avoid damage to the manhole or structure. Any damage resulting from this operation shall be repaired and made good by the Contractor at his own expense.
- D. Connections to either new structures or existing structures shall be made in such manner that a flexible joint shall occur at the outside footing line. All such connections shall be made watertight.
- E. Whenever pipes require cutting to fit into other lines, the work shall be done with approved cutting tools specifically designed to cut pipe, so as to leave a smooth end at right angles to the axis of the pipe.

3.05 BACKING.

- A. Concrete backing and/or tie rods and concrete anchors for exterior pressure piping shall be provided at all tees, bends and in other locations indicated on the Contract Drawings. Tie rods shall be of mild steel, except where high tensile strength steel is called for on the Contract Drawings. High tensile steel rods, where required, shall have the minimum yield strength of 70,000 psi. Nuts and washers shall be of the same material as tie rods. All tie rods and nuts installed underground or in contact with water shall be hot-dipped galvanized. Concrete backing and/or tie rods and concrete anchors for gravity pipelines shall be in locations shown on the Contract Drawings.

3.06 SEWER LATERALS.

- A. Lateral connection made to the sewer prior to backfilling shall not be installed in the pipe trench as vertical risers except as approved in writing by the Engineer, but shall be laid on a slope not exceeding two feet vertical to one foot horizontal, and not less than 1/8-inch per foot, in such a manner that the lateral shall have a solid bearing on undisturbed earth as stipulated for pipe sewers. All laterals shall be closed by means of suitable stoppers or end caps.
- B. All laterals shall be properly marked at the original ground surface at the point where laterals terminate with either timber markers, concrete markers, or clean outs. Concrete markers and clean outs shall be installed as shown on the Contract.
- C. Timber markers shall consist of a 4-inch by 4-inch timber extending from the end of the lateral vertically to two foot above the ground surface. All such markers shall be securely anchored and maintained in a proper vertical position until backfilling has been completed.

3.07 FIELD LEAKAGE TESTS.

- A. All pressure and gravity piping and pipelines shall be tested by the Contractor as directed by the Engineer. All tests shall be conducted in a manner to minimize interference with the progress of the work.
- B. The Contractor shall notify the Engineer when the work is ready for testing and tests shall be conducted as soon as possible thereafter under the direction of the Engineer. All other labor,

- equipment, water and materials, including meters and gauges shall be furnished by the Contractor at his own expense.
- C. Piping and other equipment designed to carry fluids under pressure shall be tested as a whole, or in sections valved or bulkheaded at the ends. Testing shall be under a hydrostatic pressure equal to test pressure specified herein and not less than 150% of working pressure or 150 psi, whichever is greater.
 - D. Test pressure for pressurized piping shall be applied by means of a pump and a tap in the pipe. The rate of leakage shall be determined over a two hour period, by means of volumetric measurement of the water added during the test to maintain a pressure ± 5 psi from the specified test pressure. No pipeline will be accepted if the leakage is greater than the amount calculated by the formula below:

$$L = (S \times D \times P1/2) / 148,000$$

Where:

L is the allowable leakage in gallons per hour,
 S is the length of pipe in feet,
 D is the nominal pipe diameter in inches, and
 P is the average test pressure in psig.

- E. All new sewers shall be tested by means of a low pressure air test in accordance with ASTM C-828 and ASTM C-924. A tabulation of the Minimum Holding Times for each section of sewer to be tested shall be submitted to the Engineer for approval prior to conducting the testing.

3.08 MANDREL TESTING.

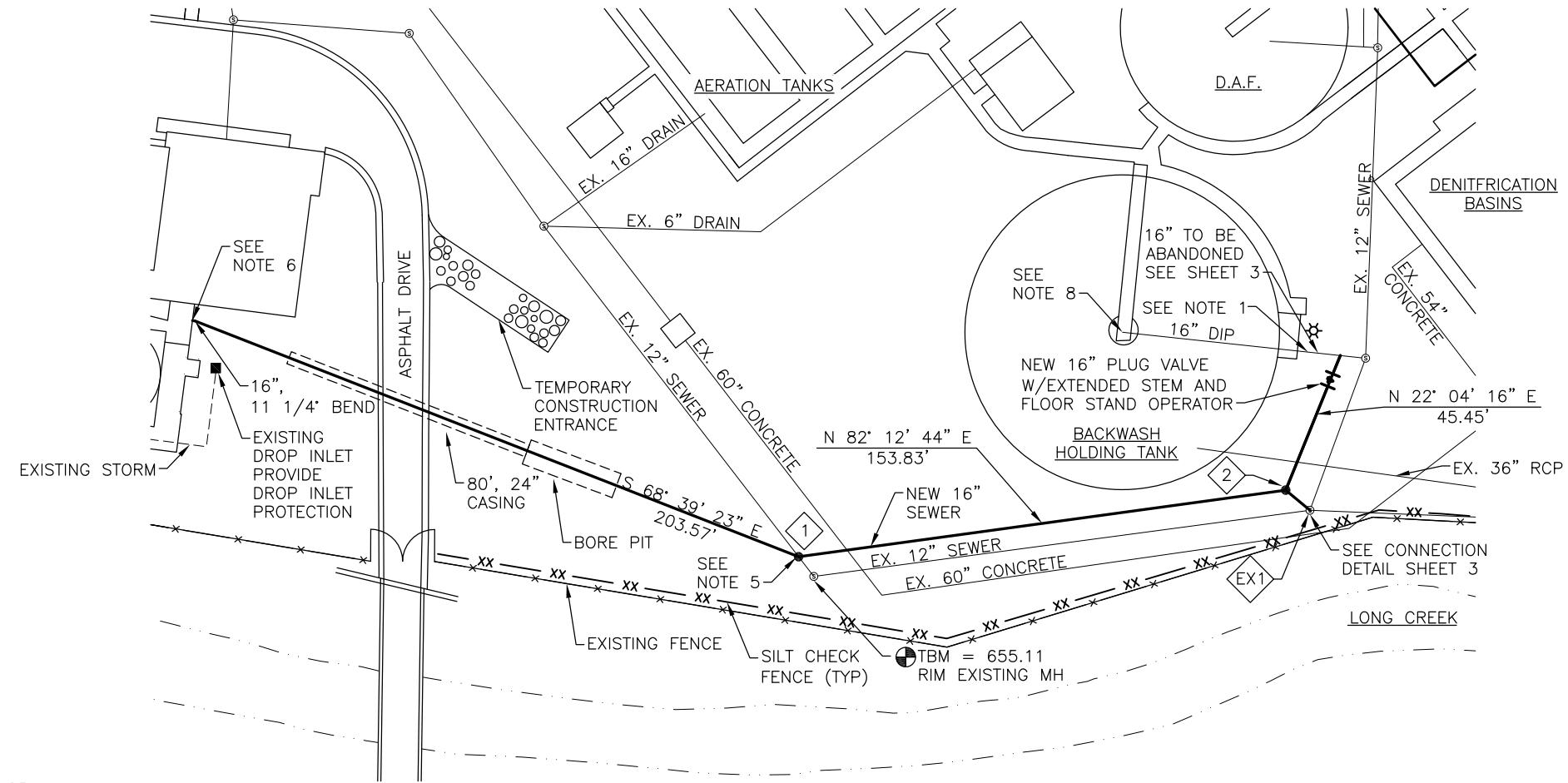
- A. All PVC sewers shall be mandrel tested. The mandrels and proving rings shall meet all applicable ASTM requirements for testing a 5% maximum deflection for each size and type of pipe.
- B. The mandrel shall consist of an unequal number of rails, with a minimum of 7 rails. Rail length shall be at least equal to the nominal pipe diameter. Mandrel/proving ring diameter shall confirm to the ASTM standard for the type of pipe installed and shall be approved by the Engineer.
- C. Prior to each use, the Contractor will demonstrate to the Project Inspector that the mandrel tightly fills the proving ring along the full length of the mandrel. The trailing edge of the mandrel shall be the full diameter of the proving ring to allow the Engineer to observe the deflection of the main with the closed circuit television inspection.
- D. The mandrel inspection of the main shall be performed concurrently with the television inspection of the mains.

3.09 FINAL INSPECTION FOR SEWER.

- A. Each section of sewer, between each pair of manholes will be inspected by the Contractor after the line is complete. Such inspection will be visual and by transversing the inside of the

pipe or by looking through the sewer from manhole to manhole with the aid of reflected sunlight or by the use of an electric light, when the sewer is too small to be entered. The pipe shall be true to both line and grade, shall show no leaks, shall show no obstruction to flow, shall have no projections of connecting pipe into the sewer, shall be free from cracks and protruding joint materials, and shall contain no deposits of sand, dirt, or other materials which will in any way reduce the full cross sectional area. All wall joints in manholes, junction chambers, pumping stations, and elsewhere shall be watertight. All finished work shall be neat in appearance and of first class workmanship. Proper stoppers and bulkheads must be in place where required.

END OF SECTION 33 31 00



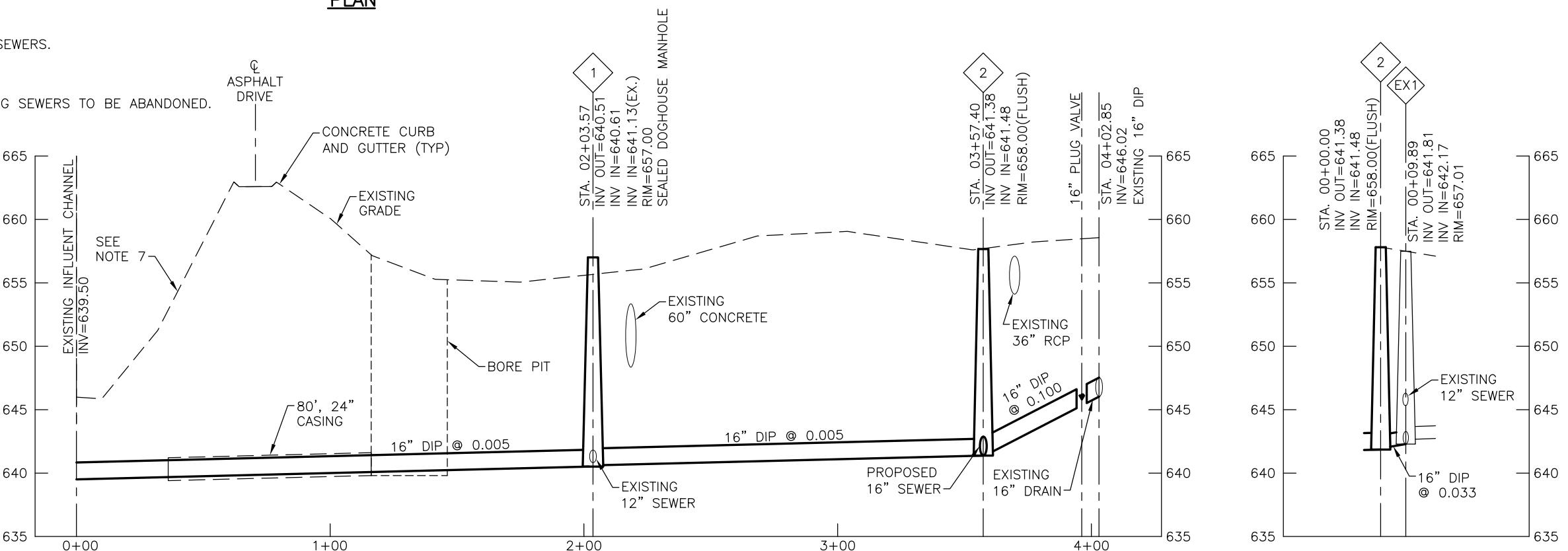
PLAN

SEQUENCE OF WORK:

1. INSTALL SILT FENCE.
 2. COMPLETE CONSTRUCTION OF 16-INCH AND 12-INCH SEWERS.
 3. TEST NEW SEWERS AND MANHOLES.
 4. COMPLETE CONNECTIONS TO EXISTING SYSTEM AND PLUG SEWERS TO BE ABANDONED.
 5. COMPLETE BACKWASH HOLDING TANK IMPROVEMENTS.
 6. RESTORE ALL SURFACES.

NOTES

1. CONNECTION AT EXISTING DRAIN. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING 16" PRIOR TO BEGINNING CONSTRUCTION.
 2. SIZE AND LOCATION OF UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND BASED ON RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND IS RESPONSIBLE FOR DAMAGE.
 3. ALL EXISTING CONCRETE SIDEWALKS NOT SHOWN FOR CLARITY. ANY SIDEWALKS DAMAGED BY CONSTRUCTION ACTIVITY SHALL BE NEATLY SAW CUT AT NEAREST JOINT AND REPLACED.
 4. THE CONTRACTOR IS ADVISED THAT WORK ON PROJECT IS TO BE PERFORMED IN AN ACTIVE WASTEWATER TREATMENT PLANT. THE CONTRACTOR SHALL COORDINATE HIS EFFORTS AS TO NOT INTERFERE WITH NORMAL OPERATIONS.
 5. MANHOLE 1 TO BE CONSTRUCTED OVER EXISTING SEWER. SEE DETAIL SHEET 3 AND 4.
 6. CORE EXISTING CHANNEL WALL DOWN STREAM OF FLUME. SEE DETAIL ON SHEET 3.
 7. PROVIDE EXCELSIOR MATTING INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS ON SLOPE BETWEEN INFLUENT CHANNEL AND MH 1.
 8. AFTER COMPLETION OF PIPELINE INSTALLATION, CONTRACTOR SHALL REMOVE ORIFICE RESTRICTION IN BACKWASH HOLDING TANK. ORIFICE RESTRICTION CONSIST OF 4" x 18" PIPE GROUTED INSIDE 16" DRAIN LINE.
 9. ALL DUCTILE IRON PIPE FOR PROJECT SHALL BE THICKNESS CLASS 50 WITH PROTECTO 401 CERAMIC LINING.
 10. GRAVITY SEWER SHALL BE SLIP JOINT PIPE IN ACCORDANCE WITH SPECIFICATIONS. ALL VALVES AND FITTINGS SHALL BE RESTRAINED WITH "MEGA-LUG" STYLE WEDGE ACTION RESTRAINING GLANDS.
 11. D.A.F. TO BE TAKEN OUT OF SERVICE FOR CONNECTION TO MH EX1. COORDINATE SHUT DOWN WITH PLANT STAFF. SHUT DOWN TO BE LIMITED TO 3 DAYS WITH A 7 DAY ADVANCED NOTICE.
 12. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE, SEED, AND MULCH TO ALL DISTURBED AREAS.



PROFILE

TWO RIVERS UTILITIES
LONG CREEK WWTP PLANT SEWER

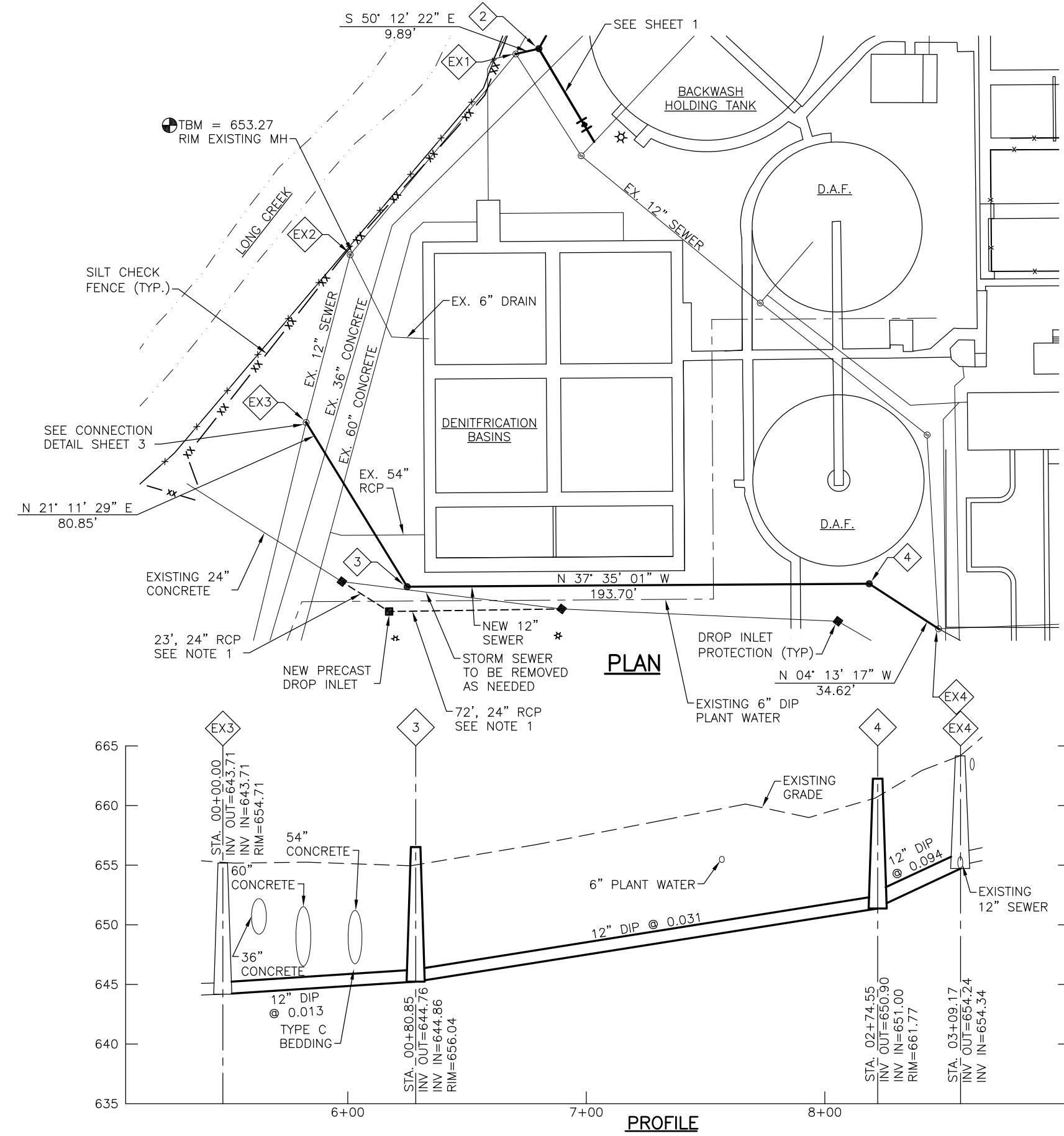
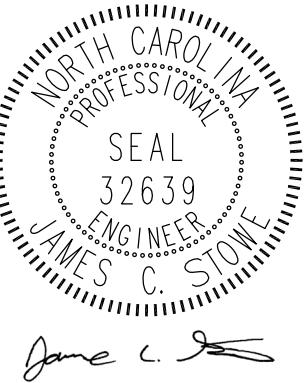
PLAN AND PROFILE

1922.058



IN CHARGE	CAWjr	V			
DESIGNED	JCS	5'	0	5'	10'
MADE BY	AMA	25'	0	25'	50'
CHECKED	GJW	H			
			1	ISSUED FOR BIDDING	17 NOV 25

17 NOV 2025



NOTE:

1. EXISTING REINFORCED CONCRETE PIPE SHALL BE RELOCATED TO ALLOW FOR CONSTRUCTION OF NEW SEWER. EXISTING PIPE OPENINGS SHALL BE PLUGGED.
 2. ALL NEW REINFORCED CONCRETE PIPE SHALL BE CLASS III.

IN CHARGE CAWjr
 DESIGNED JCS
 MADE BY AMA
 CHECKED GJW

1 ISSUED FOR BIDDING 17 NOV 25



TWO RIVERS UTILITIES
LONG CREEK WWTP PLANT SEWER

PLAN AND PROFILE

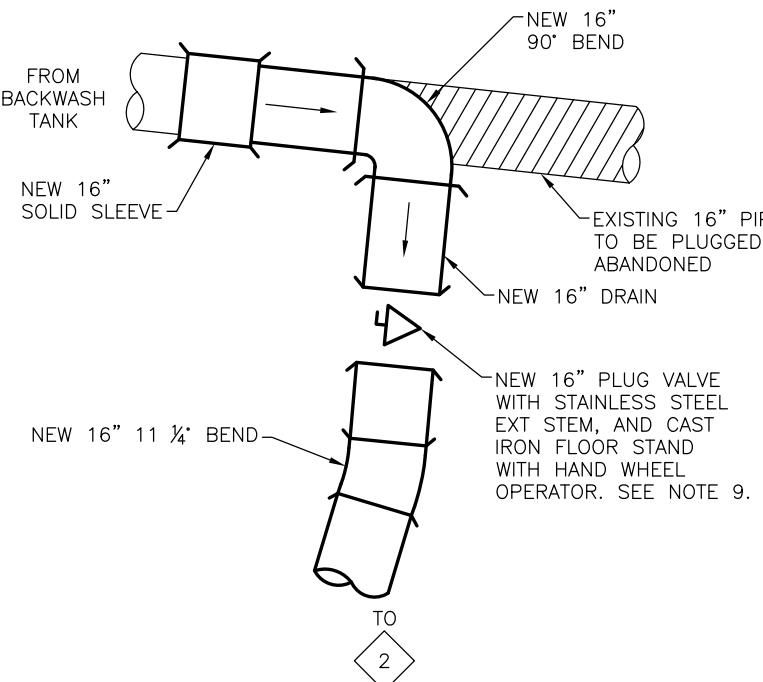
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NOVEMBER 2025

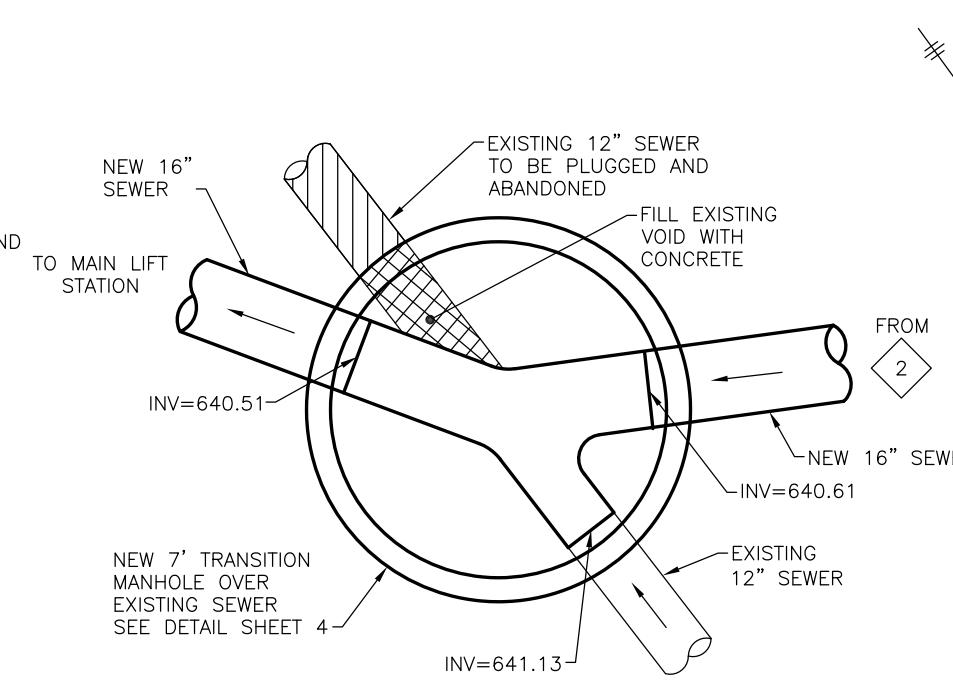
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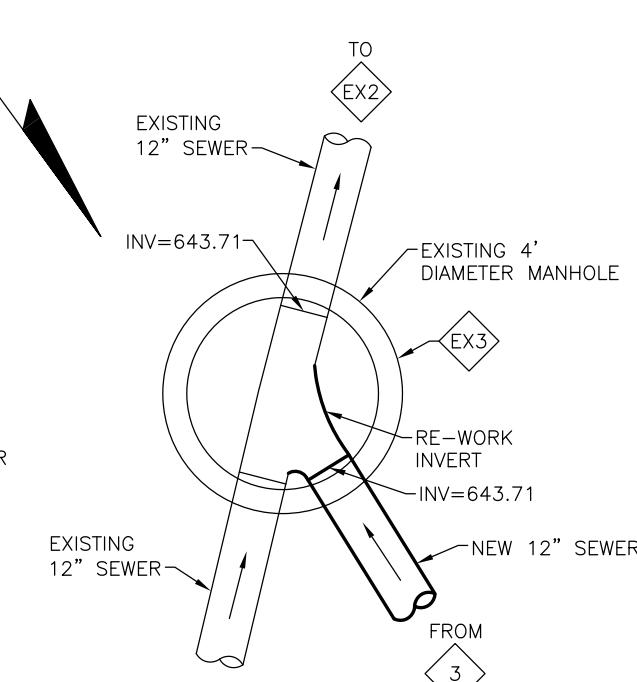
17 NOV 2025



CONNECTION AT BACKWASH TANK

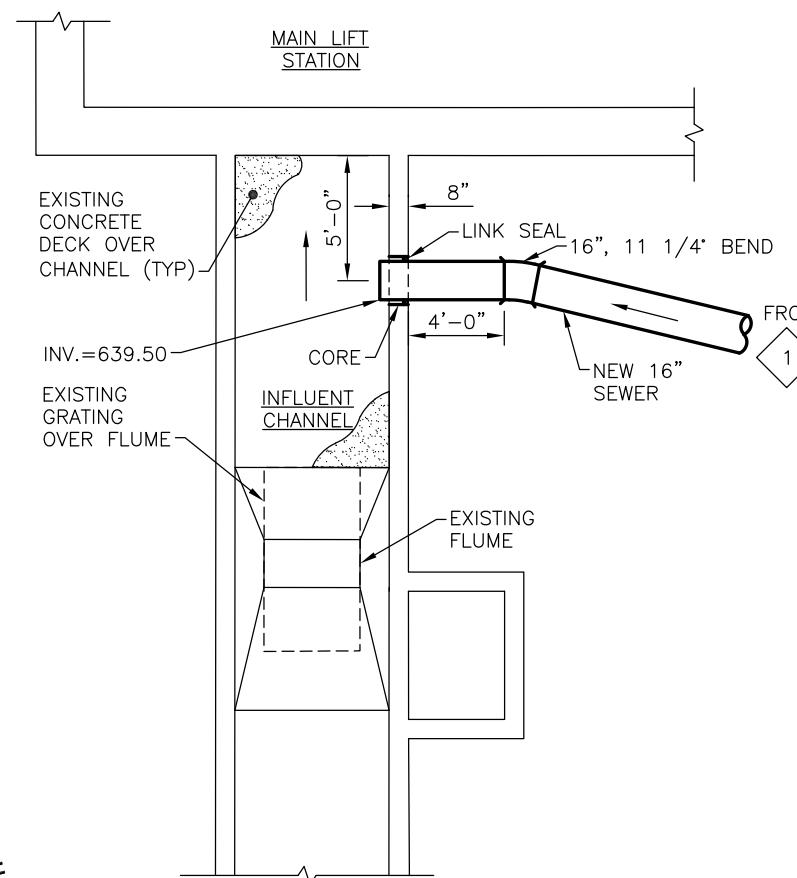


CONNECTION AT MH 1

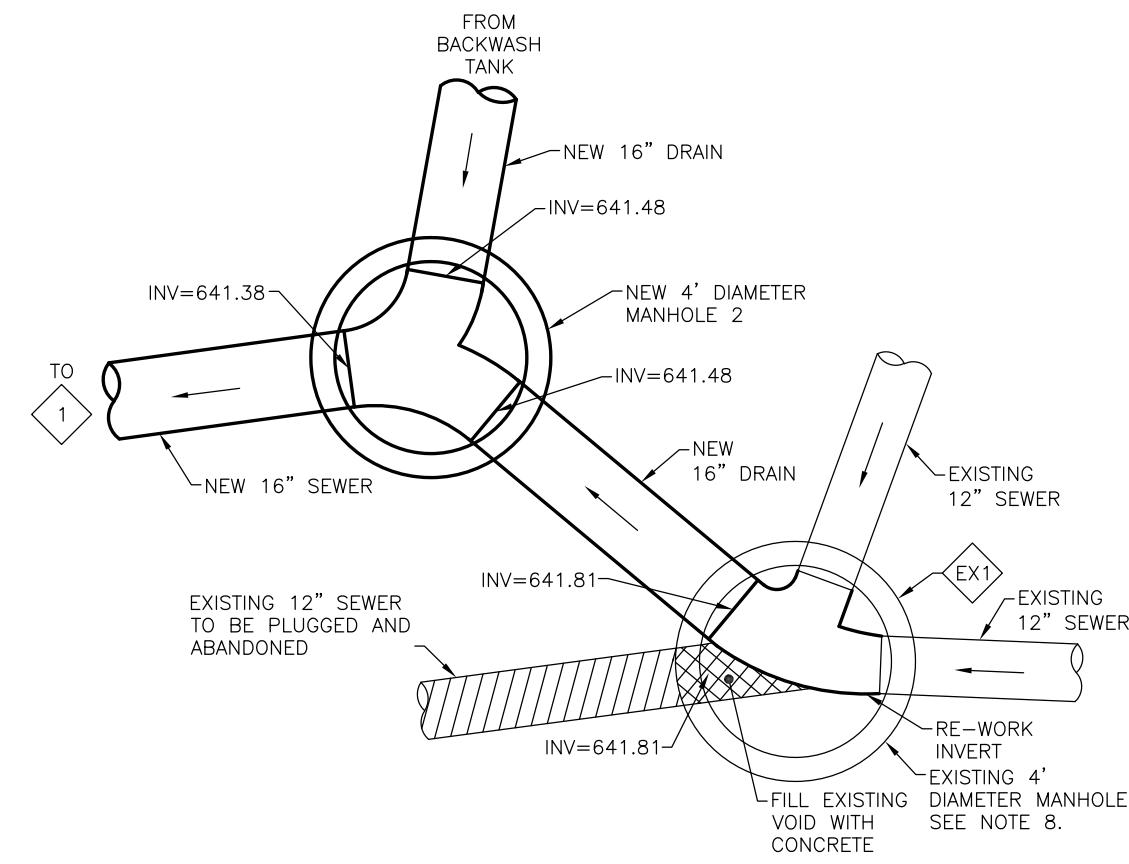


CONNECTION AT MH EX3

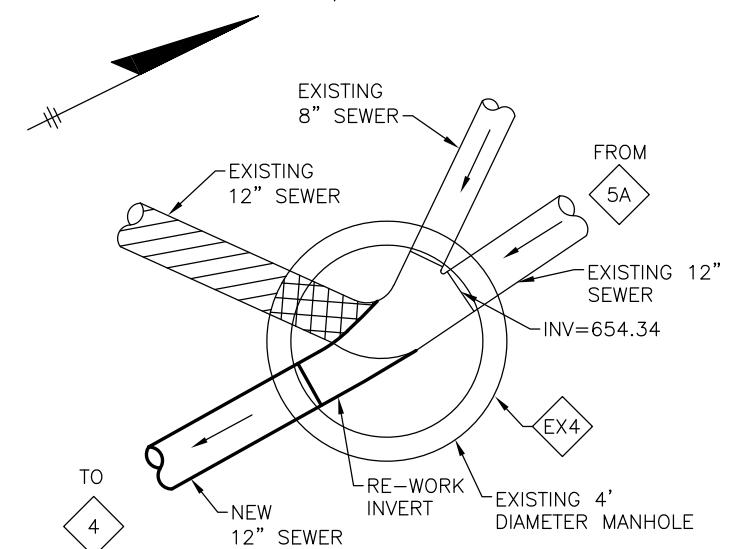
- GENERAL CONNECTION NOTES:
1. CONNECTION MANHOLE 1 TO BE BUILT OVER EXISTING SEWERS. SEE DETAIL SHEET 4.
 2. CORE HOLE FOR NEW SEWER.
 3. FLOW OF EXISTING SEWER SHALL BE MAINTAINED UNTIL NEW SEWER IS COMPLETE.
 4. AFTER NEW SEWERS ARE COMPLETE, EXISTING SEWERS SHALL BE DIVERTED, PLUGGED AND ABANDONED AS NOTED. ABANDONED SEWERS SHALL BE PLUGGED AT EDGE OF MANHOLE AND INVERTS FILLED WITH CONCRETE.
 5. CONTRACTOR SHALL VERIFY ELEVATION OF EXISTING SEWER PRIOR TO BEGINNING CONSTRUCTION.
 6. BACKWASH HOLDING TANK TO BE DRAINED BY PLANT STAFF DURING CONNECTION AT TANK AND MANHOLE 1. COORDINATE WITH PLANT STAFF.
 7. BACKWASH HOLDING TANK MAY ONLY BE OUT OF SERVICE 8 HOURS. ALL FITTINGS, GASKETS, RETAINER GLANDS AND ACCESSORIES SHALL BE PREASSEMBLED TO THE EXTENT POSSIBLE PRIOR TO TAKING BACKWASH HOLDING TANK OUT OF SERVICE.
 8. EXISTING MANHOLE SURCHARGES DUE TO POOR FLOW IN EXISTING SEWER. PUMP OUT AS REQUIRED TO MAKE CONNECTION.
 9. FLOOR STAND SHALL BE MOUNTED TO A 36" SQUARE CONCRETE PAD 6" THICK, WITH 6x6/10:10 WWF.



CONNECTION AT MAIN LIFT STATION



CONNECTION AT MH 2



CONNECTION AT MH EX4

IN CHARGE CAWjr	2'	0	2'	4'
DESIGNED JCS	4'	0	4'	8'
MADE BY AMA				
CHECKED GJW				

1	ISSUED FOR BIDDING	17 NOV 25
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TWO RIVERS UTILITIES
LONG CREEK WWTP PLANT SEWER

CONNECTION DETAILS

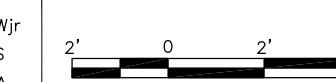
1922.058
NOVEMBER 2025

3

17 NOV 2025



IN CHARGE CAWjr
DESIGNED JCS
MADE BY AMA
CHECKED GJW



1 ISSUED FOR BIDDING 17 NOV 25

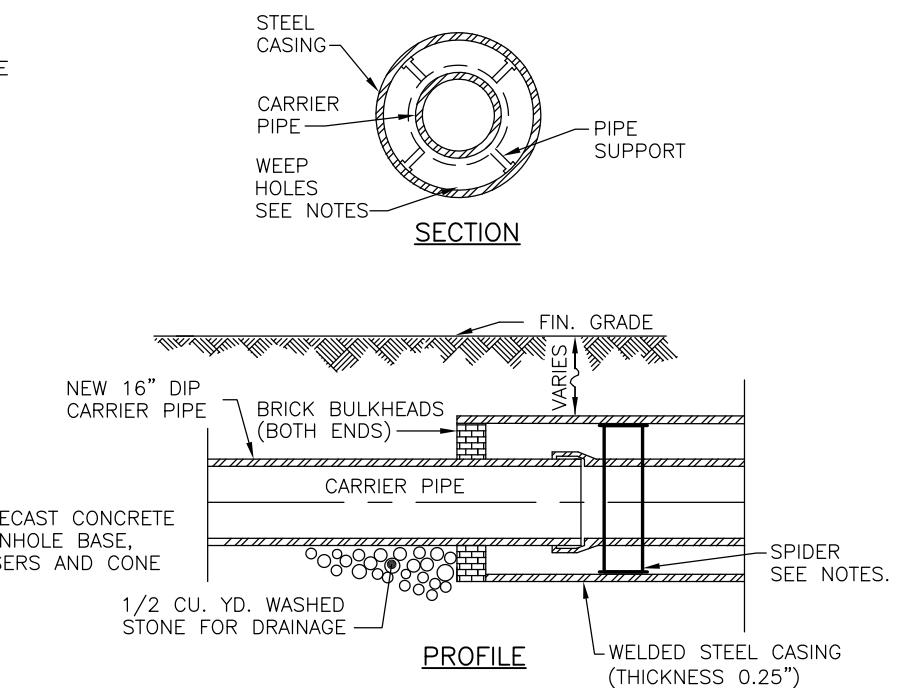
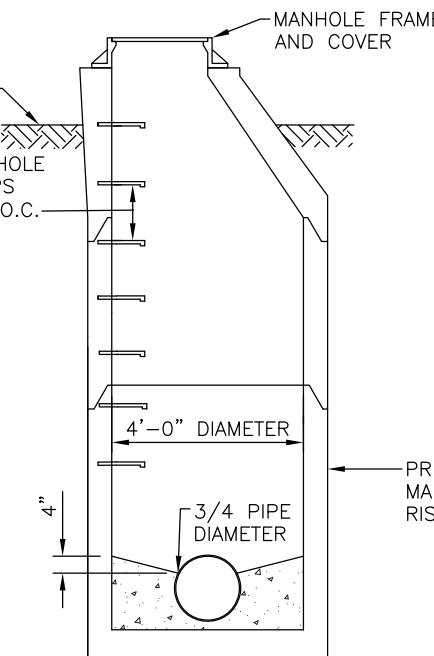
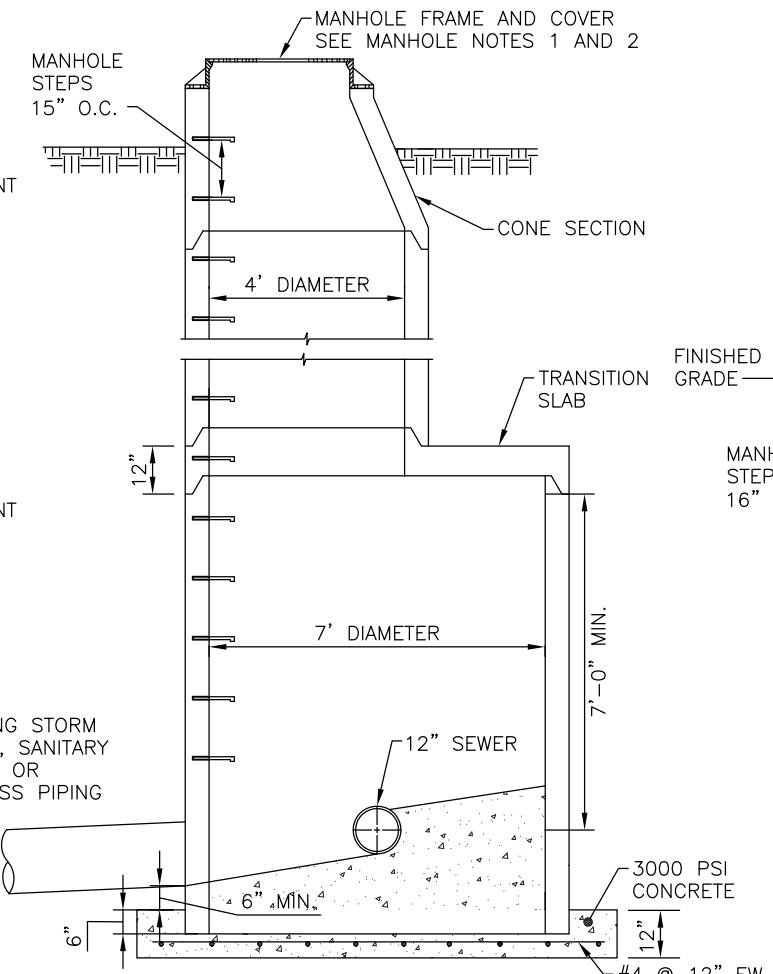
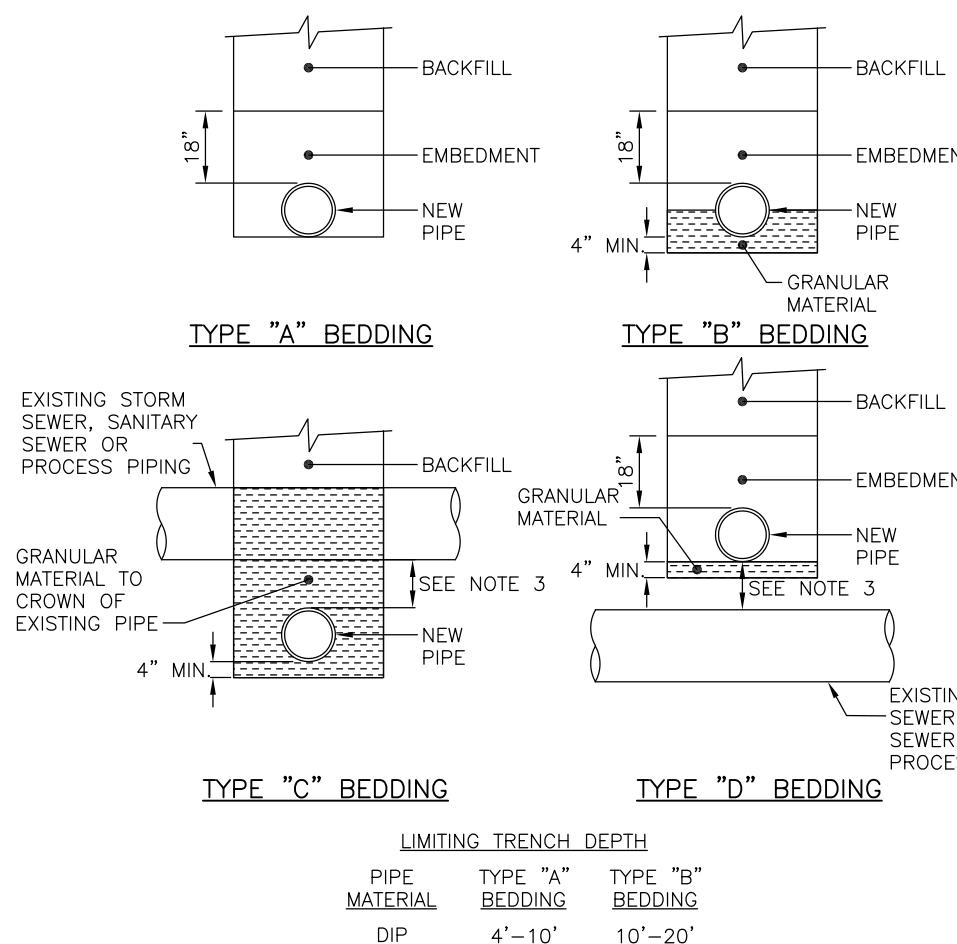


TWO RIVERS UTILITIES
LONG CREEK WWTP PLANT SEWER

DETAILS

1922.058
NOVEMBER 2025

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BEDDING DETAILS

BEDDING NOTES:

1. TRENCH DEPTHS MEASURED FROM FINISHED GRADE TO PIPE INVERT.
2. PIPE EMBEDMENT SHALL BE PLACED IN A MINIMUM OF 6" LAYERS AND COMPACTED TO 95% OF THE MAXIMUM LABORATORY DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR METHOD.
3. BEDDING TYPES "C" AND "D" SHALL BE PROVIDED WHERE SHOWN ON THE PLANS OR WHERE THE CLEARANCE WITH EXISTING PIPING IS LESS THAN 24". THE BEDDING SHALL EXTEND A MINIMUM OF 5 FEET ON EACH SIDE OF THE EXISTING PIPE CROSSING.
4. WHEN USING BEDDING TYPE "C" ANY SUBGRADE UNDER EXISTING STORM SEWER, SANITARY SEWER OR PROCESS PIPING SHALL BE BACKFILLED WITH GRANULAR MATERIAL COMPACTED TO 95% TO THE CROWN OF THE EXISTING PIPE.

TRANSITION DOGHOUSE MANHOLE

DOGHOUSE MANHOLE CONSTRUCTION SEQUENCE:

1. VERIFY ELEVATION OF EXISTING SEWER PRIOR TO CONSTRUCTION.
2. POUR CONCRETE BASE SLAB AND INVERT.
3. CONSTRUCT PRECAST MANHOLE.
4. UPON APPROVAL OF OWNER AND ENGINEER, SAW CUT EXISTING SEWER AND GROUT NEW INVERT TO PROVIDE SMOOTH TRANSITION INTO NEW SEWER.

TYPICAL MANHOLE

MANHOLE NOTES:

1. SEALED MANHOLE COVERS SHALL BE SEALED WITH (4) 2" X 1/2" DIA. STAINLESS STEEL BOLTS.
2. ALL MANHOLE FRAMES SHALL BE BOLTED TO CONE SECTION WITH 3/4" STAINLESS STEEL WEDGE ANCHOR BOLTS.
3. RIM ELEVATIONS SHALL BE AS SHOWN IN PROFILE.

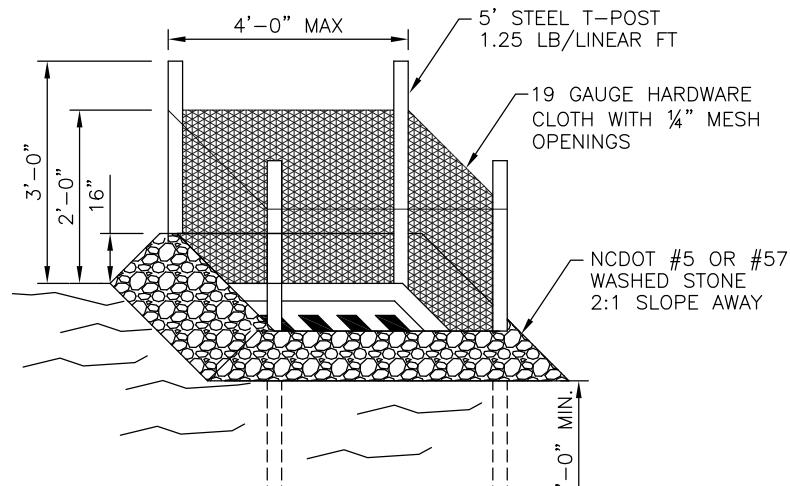
CASING

CASING NOTES:

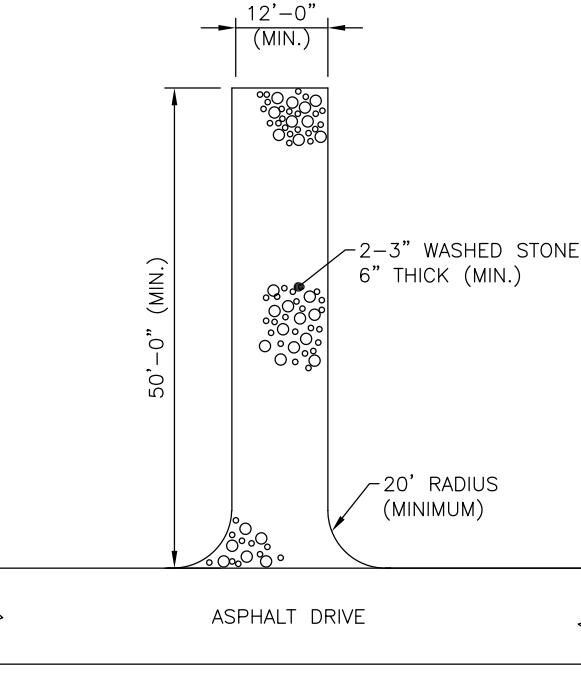
1. PROVIDE TWO 1" WEEP HOLE DRAINS EACH SIDE OF THE CARRIER PIPE IN DOWNHILL END WALL.
2. PROVIDE TWO SPIDERS PER JOINT OF CARRIER PIPE.
3. SPIDERS, NUTS, BOLTS AND WASHERS SHALL BE STAINLESS STEEL.
4. ADJUST HEIGHT OF SPIDERS TO MAINTAIN SPECIFIED SLOPE.



17 NOV 2025

NOTES:

1. CONTRACTOR MAY USE BLOCK AND GRAVEL INLET PROTECTION IN ACCORDANCE WITH EROSION CONTROL DETAIL 6.52 IN LIEU OF WOVEN MESH PROTECTION.
2. INSPECT INLET PROTECTION WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL. CLEAN OUT SEDIMENT AND REPLACE STONE AS NEEDED TO MAINTAIN INLET PROTECTION AS SPECIFIED.

DROP INLET PROTECTIONNOTE:

INSPECT TEMPORARY CONSTRUCTION ENTRANCE PERIODICALLY FOR CONDITION OF SURFACE. TOP DRESS WITH NEW WASHED STONE AS NEEDED. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS TRACKED ONTO PUBLIC ROADWAYS.

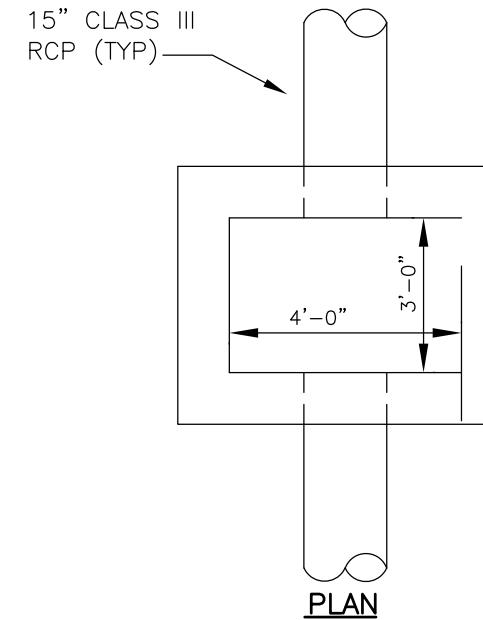
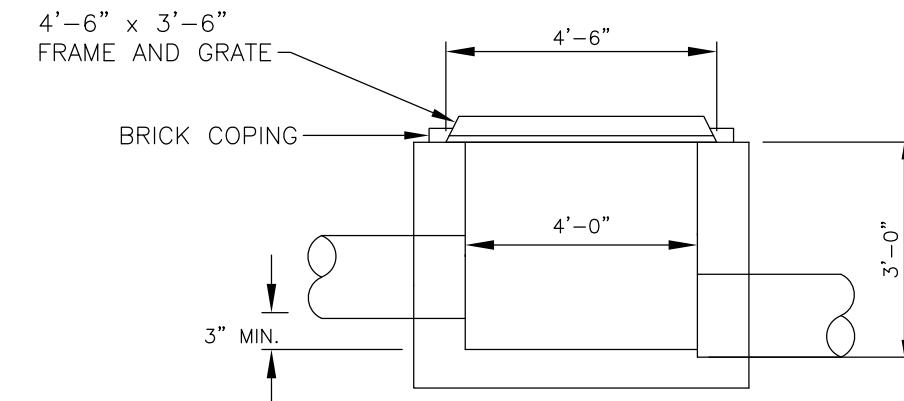
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

CONFORMS TO EROSION AND
SEDIMENT CONTROL PLANNING
AND DESIGN MANUAL DETAIL 6.06

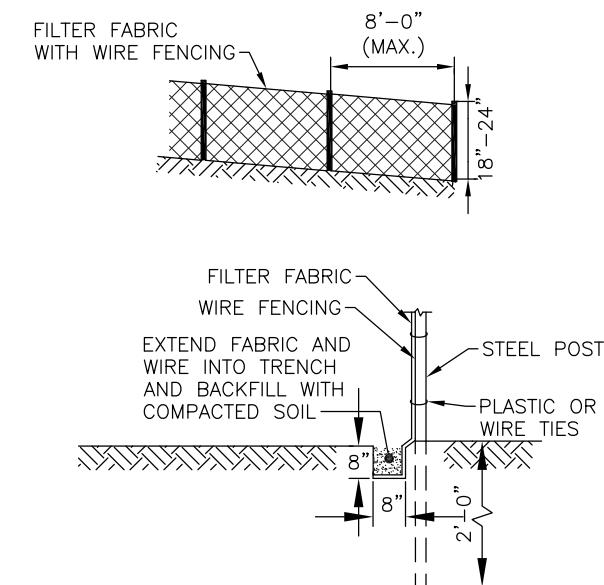
IN CHARGE CAWjr
DESIGNED JCS
MADE BY AMA
CHECKED GJW

NO SCALE

1 ISSUED FOR BIDDING 17 NOV 25

PLANSECTIONNOTES:

1. PRECAST STRUCTURES SHALL MEET H-20 WHEEL LOAD.
2. STEPS SHALL BE PROVIDED FOR ALL STRUCTURES OVER 3'-6" IN DEPTH.
3. WEEP HOLES SHALL BE LOCATED ON BACK WALL OF STRUCTURES.

DROP INLET WITH GRATENOTE:

INSPECT SILT FENCE WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL. REMOVE SEDIMENT DEPOSITS TO REDUCE PRESSURE ON THE FENCE. ANY DAMAGED FABRIC SHALL BE REPAIRED OR REPLACED IMMEDIATELY AS REQUIRED.

SILT CHECK FENCE

CONFORMS TO EROSION AND
SEDIMENT CONTROL PLANNING
AND DESIGN MANUAL DETAIL 6.62

TWO RIVERS UTILITIES
LONG CREEK WWTP PLANT SEWER

DETAILS

1922.058
NOVEMBER 2025

5

Itemized Proposal

BID FORM
TWO RIVERS UTILITIES
LONG CREEK WASTEWATER TREATMENT PLANT
PLANT SEWER

CONTRACTOR: _____

NC LICENSE NO.: _____

SUBMITTAL CHECKLIST

- Acknowledge Receipt of Addendum (If Applicable)
- Sign, Date, Complete Bid Form
- Attach Bid Bond
- Evidence of Authority to Sign Bid

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Article 6 – Time of Completion.....	4
Article 7 – Attachments to this Bid.....	4
Article 8 – Defined Terms	4
Article 9 – Bid Submittal	4

ARTICLE 1 – BID RECIPIENT

- 1.01 This Bid is submitted to: **Two Rivers Utilities**
- 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 carefully studied 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.
- E. 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.

- F. 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.
- G. 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.
- H. 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.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. 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 price(s):

Item No.	Description	Estimated Quantity	Unit	Bid Unit Price	Bid Price
1	16-inch DIP Sewer Line	413	LF		
2	12-inch DIP Sewer Line	310	LF		
3	16-inch 11.25 Bend	2	EA		
4	16-inch 90 Bend	1	EA		
5	16-inch Solid Sleeve	1	EA		
6	16-inch Plug Valve	1	EA		
7	24-inch RCP Storm Sewer	100	LF		
8	24-inch Cased Crossing	80	LF		
9	Standard (4-ft Dia.) Manhole	3	EA		
10	Transition (7-ft Dia.) Manhole	1	EA		
11	Precast Drop Inlet	1	EA		
12	Backwash Holding Tank Improvements	1	LS		
13	Connections to Existing System	6	EA		
14	Excavation Below Subgrade	200	CY		
15	Stone Fill Material	200	CY		
16	Landscaping and Restoration	1	LS		
17	Erosion Control Devices	1	LS		
Subtotal (All Items 1 through 17)				\$	
18	Mobilization (Not to Exceed 3% of Subtotal)	1	LS	\$	
Total Bid Price (All Items 1 through 18)				\$	

Total Bid Price (Words) _____

ARTICLE 6 – TIME OF COMPLETION

- 6.01 The number of days within which, or the dates by which the work is to be substantially completed are set forth 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. Evidence of Authority to Sign Bid.

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – 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.)

Title:

Submittal Date:

Address for giving notices:

Telephone Number:

Contact Name and e-mail address:

Bidder's License No.:

Forms

BID SECURITY FORM

KNOW ALL MEN BY THESE PRESENTS, THAT WE

as Principal, and _____

as Surety, who is duly licensed to act as surety in North Carolina, are held unto

as Obligee, in the penal sum of _____

_____ DOLLARS, lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Signed, sealed and dated this _____ day of _____, 20_____.

WHEREAS, the said Principal is herewith submitting proposal for _____

_____ and the principal desires to file this Bid Bond in lieu of making the cash deposit as required by G.S. 143-129.

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that if the principal shall be awarded the contract for which the bid is submitted and shall execute the contract and give bond for the faithful performance thereof within ten days after the award of same to the principal, then this obligation shall be null and void; but if the principal fails to so execute such contract and give performance bond as required by G.S. 143-129, the Surety shall, upon demand, forthwith pay to the obligee the amount set forth in the first paragraph hereof. Provided further that the bid may be withdrawn as provided by G.S. 143-129.1.

(SEAL)

_____ (SEAL)

_____ (SEAL)

_____ (SEAL)

AFFIDAVIT

Each contractor submitting a bid must complete the following:

STATE OF NORTH CAROLINA

COUNTY OF GASTON

Affiant, _____, makes oath he is the (Title) _____
of _____; and that the only parties directly or
indirectly interested in this Contract are named herein; and that neither the Mayor, any Councilman, City
Manager, Director or any other City Official is directly or indirectly interested in this Contract or the
proceeds thereof; and that the undersigned affiant has not given or donated or promised to give or donate
directly or indirectly to any official or employee of the City of Gastonia or to anyone else for his benefit
any sum of money or other thing of value for aid in assistance in obtaining this Contract.

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

Notary Public

My commission Expires: _____

E-VERIFY AFFIDAVIT

Each contractor submitting a bid must complete the following:

STATE OF NORTH CAROLINA

COUNTY OF GASTON

Affiant, _____, makes oath he is the (Title) _____
of _____ ("Contractor"); and that:

- (a) The Contractor is in compliance with the requirements of the E-Verify program contained in Article 2 of Chapter 64 of the North Carolina General Statutes, which provides that each employer, after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS§64-26(a), and will comply with such requirements during the term of this contract; or
- (b) The Contractor has fewer than 25 employees within the State of North Carolina and is not subject to the provisions of Article 2 of Chapter 64 of the North Carolina General Statutes.

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

My commission Expires: _____

Notary Public

STATEMENT OF EXPERIENCE OF BIDDER

The bidder is requested to state below what work of similar magnitude of character he has done, and to give references that will enable the Owner to judge of his experience, skill and business standing and of his ability to conduct the work as completely and as rapidly as required under the terms of the contract.

<u>Project and Location</u>	<u>Reference</u>
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____

Dated _____

Bidder _____

By: _____

LIST OF SUBCONTRACTORS

PROJECT _____

The undersigned states that the following is a full and complete list of the proposed subcontractors on this Project and the class of work to be performed by each, and that such list will not be added to nor altered without written consent of the Owner.

	<u>Subcontractor and Address</u>	<u>Class and Percentage of Work to be Performed</u>	<u>MWBE Certification</u>
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
8	_____	_____	_____
	Dated _____	Bidder _____	
		By: _____	

NC Division of Water Infrastructure MBE/WBE (DBE) Compliance Supplement Instructions

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

Item	What to do with it
Good Faith Efforts Form	Provided by all bidders to be responsive Only low bidder's form is submitted to the State
Table A (Summary of firms on job)	Provided by all bidders to be responsive Only low bidder's form is submitted to the State
Table B (per item being subbed)	Provided by low bidder if SRF project or SRP/SEL* that obtains less than 10% M/WBE utilization (see page 2)
Provide documentation of anything you did that is mentioned later in this supplement	- Proof of trade paper advertisement - Printouts of DBE sources used - Solicitation emails and/or letters
Additional Forms for SRF Projects (these forms are currently not applicable)	
6100-3 (per M/WBE firm)	Provided by low bidder if SRF project
6100-2	Distributed to M/WBE firms if SRF project
Subs submit concerns on 6100-2 forms to:	Michael Pigram Region 4, Atlanta Federal Center 61 Forsyth Street Atlanta, GA 30303-8960

NOTES on this Compliance Supplement

Verifiable Goals

- **EPA MBE/WBE participation goals:** MBE 10.9%
WBE 10.4%

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

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

Table B is not required for SRP and SEL projects if you achieve 10% utilization.

DBE (MBE or WBE) Certification

In order 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 and North Carolina Department of Transportation are the most common certifications we see listed. Division of Water Infrastructure staff verify all certifications listed.

For SRF projects, please note the EPA's six Good Faith Efforts found in 40 CFR 33

Filling out the Good Faith Efforts Form and providing Table B (if subcontracting is achieved) constitutes compliance with EPA's six good faith efforts.

(1) Ensure MBE/WBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and local Government recipients, this will include placing MBE/WBEs on solicitation lists and soliciting them whenever they are potential sources.

(2) Make information of forthcoming opportunities available to MBE/WBEs and arrange time for contracts and establish delivery schedules, where requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.

(3) Consider in the contracting process whether firms competing for large contracts could subcontract with MBE/WBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities in order to increase opportunities for participation by MBE/WBEs in the competitive process.

(4) Encourage contracting with a consortium of MBE/WBEs when a contract is too large for one of these firms to handle individually.

(5) Use the services and assistance of the SBA and the MBDA.

(6) If the prime contractor awards subcontracts, require the prime contractor to take the steps in subparagraphs (1)-(5) of this section.

Pertinent State of North Carolina Administrative Code Regarding M/WBE Compliance. The provisions in this Compliance Supplement constitute compliance with the Rules below.

Owner Requirements 01 NCAC 30I .0306

Contractor Requirements 01 NCAC 30I .0308

Resources

Some sources for identifying MBE/WBE (DBE) firms

- <https://www.ips.state.nc.us/vendor/SearchVendor.aspx> (NCDOA)
- <https://www.ebs.nc.gov/VendorDirectory/default.html> (NCDOT)
- http://dsbs.sba.gov/dsbs/search/dsp_dsbs.cfm (US SBA)

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

- <http://web.sba.gov/subnet/> (US SBA Subnet advertising website)
- <https://www.mbda.gov/> (US Dept. of Commerce)
- <https://ncadmin.nc.gov/businesses/hub> (NC HUB Office)

Good Faith Efforts Form

Attempts to provide subcontracting opportunities for MBE/WBE 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 prebid 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 in order to help minority businesses in establishing credit.
- 9 – (20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order 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 and B for each trade. **Each Table B lists 3.**
- Subcontractors are being used. If any Table B has fewer than 3 solicitations you must also advertise in an M/WBE trade paper and indicate what source of M/WBE firms you used (*must list at least one*). Some possible papers and sources of M/WBE 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 M/WBE source(s)

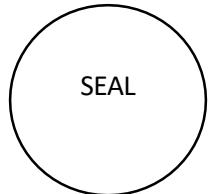
Certification Statement and Affidavit of Contractor.

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 _____

Certification of Project Owner/Funding Applicant

Funding Applicant (City, Town etc)

Applicant Authorized Representative (Sign & Date)

Division of Water Infrastructure Project Number

Table A: Prime Contractor and list of selected subcontractors

List Prime and ALL of the selected subcontractors (both DBE's and non-DBE's) being used on the project. Each Trade listed on this sheet should have a completed Table B: Subcontract Solicitation List showing the DBE firms contacted and given opportunities to bid.

Company Name (list prime first then subs)	Company Address and Phone	Trade (Above) and Price (Below)	MBE or WBE and certifying agency if applicable	(State use only) Listed in EPLS as Debarred?
		\$		
		\$		
		\$		
		\$		

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

MBE and WBE subs total	\$	
Prime Contract Price	\$	%

Note: Table A substitutes for both the State of NC "Identification of Minority Participation" form and EPA Form 6100-4.

Table B: Subcontract Solicitation List

Table B is required if:

- 1) Project is Federally funded (**SRF**) OR;
- 2) Project is a State Reserve Project or State Emergency Loan (**SRP or SEL**) and Utilization % on Table A is less than 10%
- 3)

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

List the firm being used on the project first. If three MBE or WBE firms are not listed, additional information must be provided showing advertisements and/or sources used to identify MBE/WBE subs.

Use as many of these sheets as are necessary to cover every trade being subbed out.

Company Name	Company Address and Phone	MBE or WBE and certifying agency if applicable.	How was this firm contacted (email, letter, phone) and what was the result of the solicitation?*

*Must submit copies of emails or letters. If phone calls were made this sheet can serve as documentation of calls.

MBE/WBE (DBE) – Change or Add a Subcontractor Form

According to EPA guidance on 40 CFR 33.302

If a DBE subcontractor fails to complete work under the subcontract for any reason, the recipient must require the prime contractor to employ the six good faith efforts described in §33.301 if soliciting a replacement subcontractor.

Please provide the information below **if the subcontracted work in question was included in previously submitted good faith efforts documentation:**

Prime Contractor:

Subcontracted work:

Previous Subcontractor:

Reason this firm did not complete the work:

New subcontractor and DBE status:

MBE

WBE

N/A

If this is a new trade being subcontracted, or was not documented in the original Project Bid Information submittal to the State then good faith efforts to solicit a DBE firm must be documented. As the original DBE instructions indicate, please provide a Table B from those original instructions, showing all the DBE firms contacted to perform this work. If three (3) firms are not listed on Table B, then additionally you must submit proof of an advertisement in a minority trade paper and evidence that there were not three reasonably available firms in the work area. The EPA provides in 33.301(a) that good faith efforts are to be carried out "...to the fullest extent practicable...". If solicitations were not carried out due to being impracticable, please attach this explanation to this form.

Please follow the steps below for new subcontracted work:

Indicate the new trade being subcontracted:

Indicate the firm being used and DBE status:

MBE

WBE

N/A

Attach Table B

(For State Use) Is this sub debarred?

Yes

No

Project Owner/Applicant:

Project Number:

Signature of Prime Contractor's Representative

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that _____,
_____,
as Principal, and _____,
as Surety, are held and firmly bound unto the City of Gastonia, North Carolina (Owner),
in the full and just sum of _____
_____, DOLLARS (\$ _____),
lawful money of the United States of America for the payment of which sum of money
well and truly to be made, we bind ourselves, heirs, executors, administrators, successors
and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract dated _____
day of _____ A.D., 20 __, with the City of Gastonia,
North Carolina for _____
_____,
complete, as described in the foregoing Contract and Articles of Agreement.

NOW THE CONDITIONS OF THIS OBLIGATION ARE SUCH, that if the said
Principal shall in all respects well and truly keep and perform the said Contract, and shall
pay all sums of money due or to become due, for any labor, materials, apparatus, fixtures
or equipment furnished for the purpose of constructing the work provided in said Contract,
and shall remove and replace any defects in workmanship or materials which may be
apparent or may develop within a period one (1) year from the date of final acceptance,
then this obligation shall be null and void; otherwise it shall remain in full force and effect.

And the said Surety, for value received, hereby stipulates and agrees that no change,
extension of time, alteration or addition to the terms of the Contract or to the work to be
performed thereunder or the specifications accompanying the same shall in any way affect
its obligation on this bond, and it does hereby waive notice of any such change, extension
of time, alteration or addition to the terms of the Contract or to the work or to the
Specifications.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day
of _____, 20 ____.

(SEAL)

(SEAL)

(SEAL)

(SEAL)

Witness:

(If Individual or Firm)

Attest:

(If Corporation)

(SEAL)

(SEAL)

Attest:

(Surety)

Approved as to Form:

Attorney for Owner

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENT, that we, the undersigned, _____
hereinafter
called the "Principal", and _____
_____, a corporation organized and existing under the laws of the State of
_____, having its principal office at
_____, hereinafter called the "Surety", are held and firmly
bound unto the City of Gastonia, North Carolina, hereinafter called "Owner", for the use of any and every
person, co-partnership, associate or corporation interested in the full and just sum of
_____ DOLLARS
(\$_____), lawful money of the United States of America, to be paid to the said
obligees or its or their assigns, to which payment well and truly to be made we bind ourselves, our heirs,
executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Sealed with our respective seals and dated this _____ day of _____, A.D., 20 ____.

WHEREAS, the above bounden _____ Principal has entered into a
contract with the City of Gastonia, North Carolina (OWNER), dated the _____ day of
_____, A.D., 20 ____, for the construction of
_____.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden
Principal shall and will promptly pay or cause to be paid all sums of money which may be due any person,
co-partnership, association or corporation for all material furnished and labor supplied or performed in the
prosecution of the work, whether or not the said material or labor enter into and become component parts
of the work or improvement contemplated, then this obligation to be void, otherwise to remain in full force
and effect.

The Principal and Surety further jointly and severally agree with the obligee herein that every person,
co-partnership, association or corporation who, whether as subcontractor or otherwise, has furnished material
or supplied or performed labor in the prosecution of the work as above proved and who has not been paid
therefor may sue in assumpsit on this bond in the name of the Owner for his, their or its use, prosecute the
same to final judgement for such sum or sums as may be justly due him, them, or it, and have execution
thereon, provided, however, that the Owner shall not be liable for the payment of any costs or expenses of
any such suit.

IT IS FURTHER AGREED, that any alterations which may be made in the terms of the contract or in the work to be done or materials to be furnished or labor to be supplied or performed under it or the giving by the Owner of any extension of time for the performance of the contract or any other forbearance on the part of either the Owner or the Principal to the other, shall not in any way release the Principal and the Surety or Sureties or either or any of them, their heirs, executors, administrators, successors or assigns, from their liability hereunder, notice to the Surety or Sureties of any such alteration, extension or forbearance being hereby waived.

IN WITNESS WHEREOF, the said Principal and Surety have duly executed this bond under the seal and day and year first above written.

WRITE FULL NAME OF PRINCIPAL BELOW

BY _____
Signature of PRINCIPAL or Authorized Officer

(SEAL - if Principal is a Corporation)

Attest

WRITE NAME OF SURETY BELOW

BY _____
Authorized Representative
(Attach Power of Attorney)



Contract No. _____
P.O. No. _____

NOTICE TO PROCEED

TO: _____

DATE: _____

PROJECT: _____

You are hereby notified to commence WORK in accordance with the Agreement dated _____, 20____, on or before _____, 20____, and you are to complete the work within____ consecutive calendar days upon issuance of this "Notice to Proceed". The date of completion of all WORK is therefore _____, 20____.

City of Gastonia

OWNER

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by _____, this the ____ day of _____, 20____.

By _____

Title _____

Project Name: _____

Pay Request

Date _____

Contractor's Name: _____

Period from _____ to _____

Address _____

Invoice Number	Invoice Date	Vendor's Name	Materials Purchased	Amount of Invoice Before Tax	State Tax	County Tax	Total Tax	Total Invoice	Name of County Sales Tax Paid
Totals									

CERTIFICATION

This will certify that the above-listed amounts include only Sales or Use taxes paid on purchases of tangible personal property for use in performing the contract for construction of the above-mentioned project which have become annexed to, affixed to, or have become a part of the building or structure.

Sworn To And Subscribed to Before Me This

____ Day of _____, 20 _____

NOTARY PUBLIC

My Commission Expires: _____

CONTRACTOR: _____

SIGNED BY: _____

TITLE: _____

DATE: _____

**CITY OF GASTONIA
ENGINEERING DIVISION
CHANGE ORDER**

PROJECT:

ACCOUNT NO.:
CONTRACTOR:

CHANGE ORDER NO. _____
CONTRACT NO. _____

1. DESCRIPTION AND LOCATION OF CHANGE ORDER WORK:

2. ITEMS AND ESTIMATES OF QUANTITIES:

3. NEW CONTRACT SUM:

ORIGINAL CONTRACT SUM
CONTRACT SUM, INCLUDING PREVIOUS CHANGE ORDERS
INCREASE/(DECREASE) TO CONTRACT PER CHANGE ORDER # TOTAL
NEW CONTRACT SUM

4. TIME EXTENSION FOR CHANGE ORDER #

**CITY OF GASTONIA
ENGINEERING DIVISION
CHANGE ORDER**

BASIS OF AGREEMENT BETWEEN THE CITY OF GASTONIA AND CONTRACTOR

1. The Contractor agrees to perform the work described in this Change Order in consideration of the payment set out herein.
2. The terms and conditions of said contract are hereby ratified and remain in full force and effect except as modified by such Change Order(s) as may heretofore have been entered into between the City of Gastonia and the Contractor and as modified by this Change Order.
3. All terms and conditions of this Change Order are herein set out and there are no agreements relating thereto not expressed herein.
4. This Change Order shall not constitute a release or waiver of any lawful claims that the Contractor has or may have against the City of Gastonia under said contract pursuant to G.S. 136-29 except for the matters specifically covered herein.
5. Contractor expressly agrees that he will place under coverage of his Performance and Payment Bonds and Contractor's Insurance all work covered by this Change Order. Contractor will furnish to Owner evidence of increased coverage of his Performance and Payment Bonds for the accrued value of all Change Orders which exceeds the Original Contract Price by twenty percent (20%).

In witness whereof, the City of Gastonia and the Contractor have caused this Change Order to be executed by their duly authorized representatives.

IF CHANGE IN ORIGINAL CONTRACT AMOUNT IS LESS THAN \$10,000, COMPLETE THE FOLLOWING:

OWNER: CITY OF GASTONIA	CONTRACTOR: _____
City Engineer _____	Date _____
	_____ (Vice) President _____
	Date _____

IF CHANGE IN ORIGINAL CONTRACT AMOUNT IS MORE THAN \$10,000, COMPLETE THE FOLLOWING:

OWNER: CITY OF GASTONIA	CONTRACTOR: _____
Mayor/City Manager _____	Date _____
	_____ (Vice) President _____
	Date _____

ATTEST:	ATTEST:
_____ (Deputy) City Clerk	_____ (Assistant) Secretary
_____ (Corporate Seal)	_____ (Corporate Seal)

CITY OF GASTONIA
COMPETENT PERSON TRENCHING AND EXCAVATION
CHECK LIST

DATE _____ TIME _____

SITE LOCATIONS _____

SERVICE REQUEST NUMBER _____

NAME OF COMPETENT PERSON ON SITE _____

HAS NC ONE CALL BEEN NOTIFIED YES _____ NO _____

HAS WORK ZONE BEEN SET UP YES _____ NO _____

WAS LADDER IN TRENCH OVER 4' DEEP YES _____ NO _____

WAS SPOIL MATERIAL AT LEAST

2' FROM EDGE OF TRENCH YES _____ NO _____

DOES EXCAVATION COMPLY WITH ALL

OSHA REGULATIONS YES _____ NO _____

COMPETENT PERSON SIGNATURE _____

*IF ANY ANSWER IS NO, PLEASE EXPLAIN BELOW AND EXPLAIN CORRECTIVE ACTION:

TRENCH REINSPECTION DATE _____ TIME _____

CONTRACTOR'S AFFIDAVIT RELEASE AND WAIVER OF CLAIM

STATE OF NORTH CAROLINA
COUNTY OF GASTON

_____, _____ of
(Name) (Title)

_____, being first duly sworn, deposes and says that:
(Contractor)

1. The undersigned is authorized to execute this Affidavit, Release and Waiver of Claim on behalf of the Contractor and has personal knowledge of all facts set forth herein.
 2. This Affidavit, Release and Waiver of Claim is made concerning the construction of the following project:

LONG CREEK WWTP SEWER PROJECT NO. SRP-W-134-0191

3. All payrolls, material bills, sales tax, social security tax, state and federal unemployment insurance, and all other liabilities and taxes owed by the Contractor and arising in any manner from the above-described project have been paid in full.
 4. No claim or lien exist in favor of any supplier of materials or labor or in favor of any subcontractor furnishing materials or labor on the above-described project.
 5. Notwithstanding the foregoing, if the City of Gastonia or property of the City of Gastonia is subject to any claim or lien which arises in any manner from the failure of the Contractor to pay any liability described above, the Contractor will indemnify and hold the City of Gastonia harmless for any amount which the City of Gastonia is required to pay to discharge such lien or settle such claim and further will pay the City of Gastonia's expenses, costs, and attorney's fees incurred in connection therewith.
 6. All claims, suits, and proceedings of every name, description, or nature arising out of the above project against the City of Gastonia, its officers, employees and agents have been settled.
 7. The Contractor releases and waives any and all claims of every type and description which the Contractor may have against the City of Gastonia arising in any manner from the construction of the above-described project.

Title

Date _____

Sworn to and subscribed before me this _____ day of _____, 20____.

Notary Public

My Commission Expires:



NOTICE OF AWARD

Date of Issuance:

Owner: City of Gastonia

Owner's Contract No.:

Engineer: Willis Engineers

Engineer's Project No.:

Project: Long Creek WWTP Plant Sewer

Contract Name:

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: _____ project.

The Contract Price of the awarded Contract is: (Contract Amount \$)

(three) copies of the proposed Performance Bond, Payment Bond, and Agreement accompany this Notice of Award.

(three) sets of the fully executed Contract Documents and Drawings will be delivered separately or otherwise made available to you immediately after execution. You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to Owner (three) 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.

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

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

Owner: City of Gastonia

Contractor:

Authorized Signature

Authorized Signature

By:

By:

Title:

Title:

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