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SECTION 00100

INVITATION TO BID

The City of Clemson will receive bids for a storm drainage replacement project located at Clarendon Dr and Prince Rainer Dr. until 2:00 PM local time on the 5th of March 2020, at the City of Clemson’s City Hall, 1250 Tiger Blvd, Suite 5, Clemson SC 29631, at which time and place all bids will be opened and read aloud in public.

This project is to be bid as Prince Rainer Dr. and Clarendon Dr. Culvert Replacement Project and consists of:

The replacement of two 40 linear feet culverts. The Prince Rainer Dr. culvert involves installation of 48” HDPE and modifying existing headwalls and tail walls. The Clarendon Dr. culvert involves installation of 60” HDPE and installing new headwalls and tail walls. The project includes paving, clearing and grubbing. Best practices should be followed during construction.

Contract documents, including drawings and technical specifications are on file at the City of Clemson City Hall 1250 Tiger Blvd, Suite 5, Clemson, SC 29631, contact Nathan Hinkle (864) 624-1126. Copies of the plans may be obtained at the office of the owner upon a non-refundable payment of $50.00 for each set, digital copies are available free of charge and may be requested by email at nhinkle@cityofclemson.org.

The City of Clemson reserved the right to reject any or all bids or waive any informalities in the bidding.

Contractors submitting bids shall be properly licensed at the date of the bids and in the State of South Carolina to bid and perform the work on which the bid is submitted, bonding is required.

CITY OF CLEMSON

BY: NATHAN HINKLE, P.E.

STORMWATER MANAGER

February 18, 2020
SECTION 00200

INFORMATION TO BIDDERS

1. GENERAL:

The City of Clemson is in the process of receiving bids for the Prince Rainer Dr. and Clarendon Dr. Culvert Replacement Project and consists of: 40’ linear feet 60” HPDE, 40’ linear feet of 48”, modifying existing headwalls, installing new headwalls, rip-rap installation, asphalt paving and clearings and grubbing areas near the new culverts and fine grading and associated appurtenances. The successful low bidder will be expected to begin work within 10 days following the date of the Notice to Proceed.

2. USE OF SEPARATE BID FORMS:

These Contract Documents include a complete set of bidding and Contract forms which are for the convenience of bidders. They may be detached or photocopied from the Contract documents for purposes of bidding.

3. AWARDING OF CONTRACT

Bids may be held by the City of Clemson for a period not to exceed sixty (60) days from the date of the opening of bids for the purpose of reviewing the bids and investigating the qualifications of bidders prior to awarding of the contract.

4. INTERPRETATIONS OR ADDENDA:

No oral interpretation will be made to any Bidder as to the meaning of the contract Documents or any part thereof. Any inquiry received three or more days prior to the date fixed for opening of Bids will be given consideration. Every interpretation made to a Bidder will be in the form of an Addendum to the Contract documents, and when issued, will be on file in the office of the Owner and the office of the Engineer at least two days before bids are opened. In addition, all Addenda will be mailed or faxed to each person holding Contract Documents, but it shall be the Bidder’s responsibility to make inquiry as to the Addenda issued. All such Addenda shall become part of the Contract and all Bidders shall be bound by such Addenda, whether or not received by the Bidders.
5. **INSPECTION OF SITE:**

Each Bidder should visit the site of the proposed work and fully acquaint himself with the existing conditions there and schedule of work relating to construction and labor, and should fully inform himself as to the facilities involved, the difficulties and restrictions attending the performance of the Contract. The Bidder should thoroughly examine and familiarize himself with the Drawings, “Technical Specifications,” and all other Contract Documents. The Contractor by the execution of the contract shall in no way be relieved of any obligation under it due to his failure to receive or examine any form or legal instrument or to visit the site and acquaint himself with the conditions there existing and the City of Clemson will be justified in rejecting any claim based on facts regarding which he should have been on notice as a result thereof.

6. **ALTERNATIVE BIDS:**

A. All Bids must be submitted on forms supplied by the City of Clemson and shall be subject to all requirements of the contract Documents, including the Drawings, and this INFORMATION TO BIDDERS. All Bids must be regular in every respect and no interlineations, excisions, or special conditions shall be made or included in the Bid Form by the Bidder.

B. Bid documents, including the Bid and the Bid Guaranty shall be enclosed in envelopes (outer and inner), both of which shall be sealed and clearly labeled with the words “Bid Documents,” project number, name of Bidder, Bidders License No., Contractor’s License No., and date and time of Bid opening in order to guard against premature opening of the Bid.

C. The City of Clemson may consider as irregular any Bid on which there is an alteration of or departure from the Bid Form hereto attached and at its option may reject the same.

D. If the contract is awarded, it will be awarded by the City of Clemson to a responsible Bidder on the basis of the lowest Bid and the selected Alternative Bid items if any. The Contract will require the completion of the work according to the Contract documents.

E. Each Bidder shall provide, if requested, the following information:

**PRINCIPALS**
Names
Social Security Numbers
Home Address, including City, State, and Zip Code

**FIRM**
Name
07. BID GUARANTY:

A. The Bid must be accompanied by a Bid Guaranty which shall not be less than five percent (5%) of the amount of the Bid. At the option of the bidder, the guaranty may be a certified check, bank draft, negotiable U.S. Government Bond (at par value), or a Bid Bond in the form of the attached. The Bid Bond shall be secured by a guaranty or a surety company holding certificates of authority as accepted sureties (31 CFR 223). No Bid will be considered unless it is accompanied by the required guaranty. Certified check or bank draft must be made payable to the order of the City of Clemson. Cash deposits will not be accepted. The Bid guaranty shall insure the execution of the Agreement and the furnishing of the Surety bond or bonds by the successful Bidder, all as required by the Contract Documents.

B. Revised Bids submitted before the opening of Bids, if representing an increase in excess of two percent (2%) of the original Bid, must have the Bid Guaranty adjusted accordingly, otherwise the Bid will not be considered.

C. Certified checks or bank drafts, of the amount thereof, Bid Bonds, and negotiable U.S. Government bonds of unsuccessful Bidders will be returned as soon as practical after the opening of the Bids.

08. COLLUSIVE AGREEMENTS:

A. Each Bidder submitting a Bid to the City of Clemson for any portion of the work contemplated by the documents on which Bidding is based shall execute and attach thereto, a statement substantially in the form herein provided, to the effect that he has not entered into a collusive agreement with any other person, firm, or corporation with regard to any Bid submitted.

B. Before executing any subcontract the successful Bidder shall submit the name of any proposed subcontractor for prior approval by the Engineer and The City of Clemson. The Contractor shall not use any unapproved subcontractors nor shall additional compensation be allowed because of rejection by the Engineer or the City of Clemson of any subcontractor.

09. STATEMENT OF BIDDERS QUALIFICATIONS:

Each Bidder shall, upon request of the City of Clemson, submit on the form furnished for that purpose a statement of the bidder’s qualifications, his experience record in
constructing the type of improvements embraced in the contract, his organization and equipment available for the work contemplated, and when specifically requested by the City of Clemson, a detailed financial statement. The City of Clemson shall have the right to take such steps as it deems necessary to determine the ability of the bidder to perform his obligations under the Contract and the Bidder shall furnish the City of Clemson all such information and data for this purpose as it may request. The right is reserved to reject any Bid where an investigation of the available evidence or information does not satisfy the City of Clemson that the Bidder is qualified to carry out properly the terms of the Contract.

10. UNIT PRICES:

The unit price for each of the several items in the proposal of each Bidder shall include its prorate share of overhead and profit so that the sum of the products obtained by multiplying the quantity shown for each item by the unit price Bid represents the total. Any Bid not conforming to this requirement may be rejected as informal. The special attention of all Bidders is called to this provision, for should conditions make it necessary to revise the quantities, no limit will be fixed for such increased or decreased quantities, nor extra compensation allowed, provided the net monetary value of all such additive and subtractive changes in quantities of such items of work (i.e., difference in cost) shall not increase or decrease the total original contract price by more than twenty-five percent (25%), except for work not covered in the Drawings and Technical Specifications as provided for in the General Conditions.

11. CORRECTIONS:

Erasures or other changes in the Bids must be explained or noted over the signature of the Bidder.

12. TIME FOR RECEIVING BIDS:

A. Bids received prior to the advertised hour of opening will be securely kept, sealed. The officer whose duty it is to open them will decide when the specified time has arrived, and no Bid received thereafter will be considered: except that when a Bid arrives by mail after the time fixed for opening, but before the reading of all other Bids is completed, and it is shown to the satisfaction of the City of Clemson that the non-arrival on time was due solely to delay in the mail for which the Bidder was not responsible, such Bid will be received and considered.

B. Bidders are cautioned that, while telegraphic modifications of Bids may be received as provided above, such modifications, if not explicit and if in any sense subject to misinterpretation, shall make the Bid so modified or amended, subject to rejection.
13. OPENING OF BIDS:

At the time and place fixed for the opening of Bids, the City of Clemson will cause to be opened and publicly read aloud every Bid received with the time set for receiving Bids, irrespective of any irregularities therein. Bidders and other persons properly interested may be present, in person or by representative.

14. WITHDRAWAL OF BID:

Bids may be withdrawn by written or telegraphic request dispatched by the bidder in time for delivery in the normal course of business to the time fixed for opening; provided that written confirmation of any telegraphic withdrawal over the signature of the bidder is placed in the mail and postmarked prior to the time set for Bid opening. The Bid guaranty of any Bidder withdrawing his Bid in accordance with the foregoing conditions will be returned promptly.

15. AWARD OF CONTRACT – REJECTION OF BIDS:

A. Award will be made to the lowest responsible, responsive BIDDER. A responsive bidder is defined as one whose bid is complete and submitted in accordance with the contract documents without excision, special conditions or alternate bids (unless specifically requested in the bid form). A responsible bidder is defined as one who maintains a permanent place of business, has adequate equipment to complete the work properly and within the established time limit, has adequate financial status to meet his obligations contingent to the work, is properly licensed, and is considered by the City of Clemson and Engineer to be capable of performing the work in accordance with the contract documents.

B. The City of Clemson reserves the right to consider as unqualified to do the work any Bidder who does not habitually perform, or does not plan to perform, with his own forces the major portion of the work involved in construction of the improvements embraced in this Contract. The maximum amount of subcontract work shall not exceed thirty percent (30%) of the total project cost without prior approval of the City of Clemson. The City of Clemson reserves the right to either accept or reject any bid where the planned subcontract amount exceeds thirty percent (30%) of the total bid amount.

C. The City of Clemson may hold all bids for a period not to exceed sixty (60) days from the date of opening the bids for review before awarding the contract.

16. EXECUTION OF AGREEMENT – PERFORMANCE AND PAYMENT BOND:
A. Subsequent to the award and within ten (10) days after the prescribed form are presented for signature, the successful Bidders shall execute and deliver to the City of Clemson an Agreement in the form included in the Contract Documents in such number of copies as the City of Clemson may require.

B. Having satisfied all conditions of award as set forth elsewhere in these documents, the successful Bidders shall, within the period specified in paragraph “A” above, furnish a surety bond in a penal sum no less than the amount of the Contract as awarded, as security for the faithful performance of the Contract, and for the payment of all persons, firms, or corporations to whom the Contractor may become legally indebted for labor, materials, tools, equipment, or service of any nature including utility and transportation services, employed or used by him in performing the work. Such bond shall be in the same form as that included in the contract Documents and shall bear the same date as, or a date subsequent to that of the Agreement. The current power of attorney for the person who signs for any surety company shall be attached to such bond. All bonds shall be countersigned by a resident agent of the State in which the work takes place.

17. CONTRACTOR LICENSES:

The Bidder shall have a valid Bidder’s license and Contractor’s license at the time of the Bid to Bid and perform work in the State of South Carolina. The limits of such licenses must be equal to or greater than the work on which a Bid is submitted. The Bidder’s and Contractor’s license number is to be written on the outside of the bid envelope. Failure to list both Bidder’s and Contractor’s license numbers may be cause for the bid to be rejected.

18. TIME FOR COMPLETION:

75 days.

19. LIQUIDATED DAMAGES:

$500/day.

20. LICENSE AND PERMITS:

The statement of the bidder must secure all State and local building permits required. Such permits must be readily available at all times for inspection.
21. STATEMENT OF BIDDER’S QUALIFICATIONS

The Statement of Bidder’s Qualifications is not required to be submitted with the Bid. If requested by the City of Clemson after the Bid, the Statement of Bidder’s Qualifications is to be completed and returned to the City of Clemson within five (5) days of such request. Failure by the Bidder to complete the Statement of Bidder’s Qualifications may result in the Bid being rejected by the City of Clemson.

22. INSPECTION:

The work is to be jointly inspected by the Engineer and the City of Clemson. All work is subject to inspection and approval of the Engineer and the City of Clemson. The Contractor shall immediately repair and rework any and all work not approved by the above approving agencies.

END OF SECTION
SECTION 00300

BID FORM: Prince Rainer Dr. and Clarendon Dr. Culvert Replacement Project

BIDDER: ________________________________________________________________

DATE: ________________________________________________________________

ADDRESS: ____________________________________________________________

TELEPHONE NUMBER: __________________________________________________

CONTRACTORS LICENSE NO.: _____________________________________________

TO OWNER: City of Clemson
            1250-5 Tiger Blvd.
            Clemson, SC 29631

01. The undersigned, having familiarized himself with the existing conditions of the Project Area affecting the cost of the work, and with the Contract documents (which includes Invitation for Bids, the form of Bid, Technical Specifications, and Drawings) on file in the office of the Owner hereby proposes to furnish all Supervision, technical personnel, labor, materials, machinery, tools, appurtenances, equipment and services, including utility and transportation services required to construct the project in accordance with the above listed documents at:

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<td>Erosion Control</td>
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<td>Clearing &amp; Grubbing</td>
<td>1</td>
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<tr>
<td>5.</td>
<td>48&quot; HDPE</td>
<td>40</td>
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<td>6.</td>
<td>60&quot; HDPE</td>
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<td>7.</td>
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<td>Stabilization</td>
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TOTAL BID:_________________________________________________

Amount written out:_________________________________________

SUBMITTING THIS BID, the Bidder understands that the right is reserved by the City of Clemson to reject any and all Bids. If written notice of the acceptance of this bid is mailed or delivered to the undersigned within sixty (60) days after the opening thereof, or at any time thereafter, before this bid is withdrawn, the undersigned agrees to execute and deliver as an agreement in the prescribed form and furnish the required bond within ten (10) days after the agreement is presented to him for signature.

2. Security in the sum of ___________________________ dollars ($ __________ ) in the form of ________________________________ is submitted herewith in accordance with the INSTRUCTION TO BIDDERS.

3. Bidders signature hereto is a statement in proof that the undersigned has not entered into a collusive agreement with any person in respect to this bid or any other bid or the submitting of Bids for the Contract for which this Bid is submitted.

A. Neither the said Bidder or any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including his affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other bidder, firm or person to fix the price or prices of the attached Bid or of any other bidder, or to fix any overhead, profit or cost element collusion, conspiracy, connivance, or unlawful agreement any advantage against the OWNER or any person interested in the proposed Contract; and

B. The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

Signed: ____________________________________

Title: _________________________________

END OF SECTION
SECTION 00501
BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, ____________________
________________________________________________________________________ as Principal, and
________________________________________ as Surety, are hereby held and
firmly bound unto The City of Clemson as OWNER in the penal sum of ___________________
for the payment of which, well and truly to be made, we hereby jointly and severally bind
ourselves, successors and assigns. Signed this ____ _____ day of _______________ , 2020.

The Conditions of the obligation is such that whereas the Principal has submitted to The City of
Clemson a certain BID, attached hereto and hereby made a part hereof to enter into a contract in
writing, for the Prince Rainer Dr. and Clarendon Dr. Culvert Replacement Project.

NOW, THEREFORE,

a. If said BID shall be rejected, or
b. If said BID shall be accepted and the Principal shall execute and deliver a contract in the
   Form of contract attachment hereto (properly completed in accordance with said BID)
   and shall in all other respects perform the agreement created by the acceptance of said
   BID, then this obligation shall be void, otherwise the same shall remain in force and
effect; it being expressly understood and agreed that the liability of the Surety for any
   and all claims hereunder shall, in no event, exceed the penal amount of this obligation as
   herein stated.

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

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

______________________________ (L.S.)
Principal

________________________ (L.S.)
Surety

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IMPORTANT – Surety companies executing BONDS must appear on the Treasury Department’s most current list (Circular 570 as amended), be authorized to transact business in the state where the project is located.

END OF SECTION
SECTION 00502
PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)
a______________________________, hereinafter called principal, and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

Hereinafter called Surety, are held and firmly bound unto __________ City of Clemson ____________
(Name of Owner)

1250-5 Tiger Blvd., Clemson, SC, 29631 ____________ ___________
(Address of Owner)

Hereinafter called OWNER, in the penal sum of ________________________________
dollars, ($ ________________________ ) in lawful money of the United States, for the payment
of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and
severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a
certain contract with the OWNER, dated the _____ day of ______________________ , a copy of
which is hereto attached and made a part hereof for the construction of: __ Prince Rainer Dr. and
Clarendon Dr. Culvert Replacement Project .

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms,
SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the
prosecution of the WORK provided for in such contract, and any authorized extension or
modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and
coke, repairs on machinery, equipment and tools, consumed or used in connection with the 
construction of such WORK, and all insurance premiums on said WORK, and for all labor, 
performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation 
shall be void; otherwise to remain in full force and effect.

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

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

__________________________ (L.S.)
Principal

__________________________ (L.S.)
Surety

By: ________________________________

Countersigned by South Carolina Resident Agent:

Name (Typed): ________________________________ Agency Name: __

Signature: ________________________________ Agency Address: __

IMPORTANT – Surety companies executing BONDS must appear on the Treasury 
Department’s most current list (Circular 570 as amended), be authorized to transact business in 
the state where the project is located; and be regulated by the respective state insurance 
commission.

END OF SECTION
SECTION 00503
PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

__________________________________________, hereinafter called principal, and

(Corporation, Partnership, or Individual)

__________________________________________, hereinafter called Surety, are held and firmly bound unto _________ City of Clemson _________

(Name of Owner)

1250-5 Tiger Blvd., Clemson, SC, 29631 ____________ ___________

(Address of Owner)

Hereinafter called OWNER, in the penal sum of ______________________________ dollars, ($ _________________________ ) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of ______________________ , a copy of which is hereto attached and made a part hereof for the construction of: __ Prince Rainer Dr. and Clarendon Dr. Culvert Replacement Project.

NOW, THEREFORE, if the Principal shall well, truly, and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original team thereof, and any extensions thereof which may be granted by the OWNER, with or without
notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and
demands incurred under such contract, and shall fully indemnify and save harmless the OWNER
from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse
and repay the OWNER all outlay and expense which the OWNER may incur in making good any
default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that 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 WORK
to be performed there under 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, 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, this instrument is executed in five (5) counterparts, each one of
which shall be deemed an original, this the _____ day of ____________________ , 2020.

ATTEST: 

__________________________________________
(Principal)

__________________________________________
(Principal Secretary)

__________________________________________
(Witness as to Principal)

__________________________________________
(Address)

ATTEST: 

__________________________________________
(Principal Secretary)

__________________________________________
(Attorney-in-Fact)

__________________________________________
(Witness as to Principal)

__________________________________________
(Address)

END OF SECTION
THIS AGREEMENT made this ___ day of ______, 2020, between ___________________ (a corporation organized and existing under the laws of the State of South Carolina) hereinafter called the “Contractor,” and the City of Clemson, S.C., hereinafter called the “Owner.”

WITNESSETH, that the contractor and the local Public Agency for the considerations stated herein mutually agree as follows:

ARTICLE I: Statement of Work. The Contractor shall furnish all supervision, technical personnel, labor, materials, tools, equipment and services, including utility and transportation services, and perform and complete all work required for the construction of the Improvements embraced in the Prince Rainer Dr. and Clarendon Dr. Culvert Replacement Project all in strict accordance with the Contract Documents including all Addenda thereto.

ARTICLE II: The Contract Price. The Owner will pay the Contractor for the performance of the Contract, in current funds, the sum of $ __________ or as shown in the Bid Schedule, for the total quantities of work performed, at the unit prices stipulated in the bid, for the several respective items of work completed, subject to additions and deductions as provided in the General Conditions.

ARTICLE III: Contract. The executed contract documents shall consist of the following:

a. This Agreement  
   b. Addenda  
   c. Invitation to Bid  
   d. Information to bidders  
   e. Signed Copy of Bid  
   f. General Conditions  
   g. Supplemental conditions  
   h. Technical Specifications  
   i. Drawings

This Agreement, together with other documents enumerated in this Article III, which said other documents are as fully a part of the Contract as if hereto attached or herein repeated, forms the Contract between the parties hereto. In the event that any provision of any component part of this Contract conflicts with any provisions of any other component part of this Contract the provision of the component first enumerated in this Article III shall govern, except as otherwise specifically stated.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed in three (3) original copies on the day and year first written.
NOTICE OF AWARD

TO: ____________________________

Date: ____________________________

PROJECT DESCRIPTION: ____________________________________________

The OWNER has considered the BID submitted by you for the above described WORK in response to its Invitation to Bid dated March 6, 2020, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of $____________________________

You are required to execute the Agreement within ten (10) business days.

If you fail to execute said, said OWNER will be entitled to consider all your rights arising out of the OWNER’S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

City of Clemson
OWNER

By: Andy Blondeau

Title: City Administrator
ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by

This the ___________ day of ______________________, 2020.

By: _____________________________________

Title:

END OF SECTION
SECTION 00507
NOTICE TO PROCEED

TO: DATE: , 2020

PROJECT: Prince Rainer Dr. and Clarendon Dr. Culvert Replacement Project

You are hereby notified to commence WORK in accordance with the Agreement dated , 2020, on or before _____________, 2020, and you are to complete the WORK within 75 calendar days thereafter. The date of completion of all WORK is therefore ________, 2020.

City of Clemson
Owner

By: Nathan Hinkle
Title: Stormwater Manager

ACCEPTANCE OF NOTICE

Receipt of the above NOTE TO PROCEED is hereby acknowledged by

_________________________ this the _________________ day of ________________, 2020.

By: __________________________

Title: __________________________

Employer Identification Number: __________________________

END OF SECTION
01. **CONTRACT AND CONTRACT DOCUMENTS**: The plans, specifications, and addenda, hereinafter enumerated shall form part of this contract and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth. The table of contents titles, headings, running headlines and marginal notes contained herein and in said documents are solely to facilitate reference to various provisions of the contract documents and in no way affect, limit, or cast light on the interpretations of the provisions to which they refer.

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02. DEFINITIONS: The following terms as used in this contract are respectively defined as follows:

A. **Contractor.** A person, firm, or corporation with whom the contract is made by the Owner.

B. **Subcontractor.** A person, firm, or corporation supplying labor and materials, or only labor, for work at the site of the project for and under separate contract of agreement with the Contractor.

C. **Work on or at the Project.** Work to be performed at the location of the project, including the transportation of materials and supplies to or from the location of the project by employees of the Contractor and any Subcontractor.

03. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS:

The Contractor will be furnished additional instructions and detail drawings as necessary to carry out the work included in the Contract. The additional drawings and instructions thus supplied to the contractor will coordinate with the contract Documents and will be so prepared that they can be reasonably interpreted as part thereof. The Contractor shall carry on the work in accordance with the additional detail drawings and instructions. The contractor and the engineer will prepare jointly:

A. A schedule fixing the dates at which special detail drawings will be required; such drawings, if any, to be furnished by the Engineer in accordance with said schedule; and

B. A schedule fixing the respective dates for the submission of shop drawings, the beginning of manufacture, testing and installation of materials, supplies, and equipment, and the completion of the various parts of the work; each such schedule to be subject to change from time to time in accordance with the progress of the work.

04. SHOP DRAWINGS AND SAMPLES:

Submit to the Engineer for approval, in accordance with the requirement of Section 01340.

A. **Samples.** Contractor shall also submit to the Engineer for approval, all samples required by Section 01340. All samples will have been checked by and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.
B. **Deviations.** At the time of each submission, Contractor shall in writing call the Engineer’s attention to any deviations that the Shop Drawings or samples may have from the requirements of the Contract Document.

C. **Engineer’s Review.** Engineer will review and approve with reasonable promptness Shop Drawings and samples, but his review and approval shall be only for conformance with the design concept of the project and for compliance with the information given in the Contract Documents. The approval of a separate item as such will not indicate approval of the assembly in which the item functions. Contractor shall make any corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and resubmit new samples until approved. Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by Engineer or previous submissions. Contractor’s stamp of approval on any Shop Drawing or sample shall constitute a representation to owner and Engineer that Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers and similar data or he assumes full responsibility for doing so, and that he has reviewed or coordinated each Shop Drawing or sample with the requirements of the work and Contract Documents.

D. **Contractor’s Records.** Where a Shop Drawing or sample submission is required by the Specifications, no related work shall be commenced until the submission has been approved by Engineer. A copy of each approved shop drawing and each approved sample shall be kept in good order by Contractor at the site and shall be available to Engineer.

E. **Contractor’s Responsibility.** Engineer’s approval of Shop Drawings or sample shall not relieve Contractor from his responsibility for any deviations from the requirements of the contract Documents unless contractor has in writing called the engineer’s attention to such deviation at the time of submission and Engineer has given written approval to the specific deviation, nor shall any approval by Engineer relieve Contractor from responsibility for errors or omissions in the Shop Drawings.

05. **MATERIALS, SERVICES AND FACILITIES** shall be furnished by the Contractor.

A. It is understood that except as otherwise specifically stated in the contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, gas, lights, power, transportation, superintendence, taxes, insurance, temporary construction of every nature, and all other services and facilities of every nature whatsoever necessary to execute, complete and deliver the work within the specified time.

B. Any work necessary to be performed after regular working hours, on Sundays, or legal holidays, shall be performed without additional expense to the Owner.
06. **CONTRACTOR’S TITLE TO MATERIALS:**

No materials or supplies for the work shall be purchased by the contractor or by any subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies used by him in the work, free from all liens, claims, or encumbrances.

07. **INSPECTION AND TESTING OF MATERIALS:**

Unless otherwise specifically provided for in the specifications, the inspection and testing of material and finished articles to be incorporated in the work at the site by the Owner. The cost of such inspection and testing shall be paid by the Contractor.

A. **Certification by Contractor.** Where the detailed specifications call for certified copies of mill or shop tests to establish conformance of certain materials with the specifications, it shall be the responsibility of the Contractor to assure delivery of such certifications to the owner. No materials or finished articles shall be incorporated in the work until such materials and finished articles have passed the required tests. The Contractor shall promptly segregate and remove rejected material and finished articles from the site of the work.

B. **Guaranty.** The testing and approval of materials by the laboratory, or laboratories, shall not relieve the Contractor of any of his obligations to fulfill his contract and guarantee of workmanship and materials as called for in paragraph entitled “General Warranty for One Year After Completion of Contract” herein. The Contractor may, at his own expense, cause such other tests to be conducted as he may deem necessary to assure suitability, strength, and durability of any material or finished article.

08. **“OR EQUAL” CLAUSE:**

The phrase “or equal” shall be construed to mean that material or equipment will be acceptable only when, in the judgement of the Engineer, they are composed of parts of equal quality, or equal workmanship and finish, designed and constructed to perform or accomplish the desired result as efficiently as the indicated brand, pattern, grade, class, make or model. Written approval will be obtained from the Engineer prior to installation.

09. **PATENTS:**

The contractor shall hold and save the owner and its officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expenses for, or on account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the contract, including its use by the Owner, unless otherwise specifically stipulated in the contract Documents. If the contractor uses
any design, device, or materials covered by letter, patent, or copyright, he shall provide for such use by suitable agreement with the Owner of such patented or copyrighted design, device, or material. It is mutually agreed and understood that, without exception, the contract prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work. The contractor and/or his sureties shall indemnify and save harmless the Owner of the project from any and all claims for infringements by reason of the use of such patented or copyrighted design, device, or materials or any trademark or copyright in connection with work agreed to be performed under this contract, and shall indemnify the Owner for any cost, expense, or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

10. SURVEYS, LAWS AND REGULATIONS: The contractor shall comply with the following:

   A. Laws and Regulations. The contractor shall keep himself fully informed of all laws, ordinances and regulations of State, City and county in any manner affecting those engaged or employed in the work, or the materials used in the work, or in any way affecting the conduct of the work, and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over same. If any discrepancy or inconsistency should be discovered in this contract, or in the drawings or specifications herein referred to, in relation to any such law, ordinance, regulation, order or decree, he shall forthwith report the same in writing to the Owner. He shall at all times himself observe and comply with all such existing and future laws, ordinances and regulations, (to the extent that such requirements do not conflict with Federal laws or regulations) and shall protect and indemnify the Owner and its agents against any claims or liability arising from or based on the violation of any such law, ordinance, regulations, order or decree, whether by himself or by his employees.

11. CONTRACTOR’S OBLIGATIONS:

   The Contractor shall, in good workmanlike manner, so and perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required by this contract, within the time herein specified, in accordance with provisions of this contract and said specifications, and in accordance with the plans and drawings covered by this contract and any and all supplemental plans and drawings and in accordance with the directions of the Engineer as given from time to time during the progress of the work. He shall furnish, erect, maintain and remove such construction plant and such temporary works as may be required. The contractor shall observe, comply with, and be subject to all terms, conditions, requirements and limitations of the contract and specifications, and shall do, carry on and complete the entire work to the satisfaction of the Engineer and the Owner.
12. WEATHER CONDITIONS:

In the event of temporary suspension of work or during inclement weather, or whenever the Engineer shall direct, the Contractor will, and will cause his subcontractors to, protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the Engineer, any work or materials shall have been damaged or injured by reason of failure on the part of the contractor or any of his Subcontractors to so protect its work, such materials shall be removed and replaced at the expense of the Contractor.

13. PROTECTION OF WORK AND PROPERTY, EMERGENCY:

The contractor shall at all times safely guard the Owner’s property from injury or loss in connection with this contract. He shall at all times safely guard and protect his own work and that of adjacent property from damage. The contractor shall replace or make good any such damage, loss or injury unless such be caused directly by errors contained in the contract or by the Owner or by his duly authorized representatives. In case of emergency which threatens loss or injury of property and/or safety of life, the contractor will be allowed to act, without previous instructions from the Engineer, in a diligent manner. He shall notify the Engineer immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Engineer for approval. Where the Contractor has not taken action but has notified the Engineer of an emergency threatening injury to persons or damage to the work or any adjoining property, he shall act as instructed or authorized by the Engineer. The amount of reimbursement claimed by the contractor on account of any emergency action shall be determined in the manner provided in paragraph entitled “Changes in Work” of these specifications.

14. INTERPRETATIONS:

If any person contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of these proposed contract documents, he may submit to the Engineer a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt and actual delivery. Any interpretation of such documents will be made only by addendum duly issued, and a copy of such addendum will be mailed or delivered to each person receiving a set of such documents. The Owner will not be responsible for any other explanation or interpretation of such documents which anyone presumes to make on behalf of the Owner before expiration of the ultimate time set for the receipt of bids.
15. REPORTS, RECORDS, AND DATA:

The contractor shall submit to the Owner such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as the Owner may request concerning work performed or to be performed under this contract.

16. SUPERINTENDENCE BY CONTRACTOR:

The Contractor shall employ only competent and skilled men on the work. The contractor shall have a competent Superintendent or Foreman present at all times when the work is in progress, who shall have full authority to act for the Contractor. It is understood that such representative shall be acceptable to the Engineer and shall be one who can be continued in that capacity for the particular job involved unless he ceases to be on the Contractor’s payroll. The contractor shall, upon demand from the Engineer, immediately remove any Superintendent, Foreman, or workman whom the Engineer may consider incompetent or undesirable.

17. CHANGES IN WORK:

No changes in the work covered by the approved contract documents shall be made without having prior written approval of the Owner. Charges or credits for the work covered by the approved change shall be determined by one or more, or a combination of, the following methods:

A. Unit bid prices previously approved.

B. An agreed lump sum.

C. The actual cost of:

1. Labor, including foreman.
2. Materials entering permanently into the work.
3. The ownership or rental cost of construction plant and equipment during the time of use on the extra work.
4. Power and consumable supplies for the operation of power equipment.
5. Insurance.

To the cost under C there 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 any other general expenses.
18. **EXTRAS:**

Without invalidating the contract, the Owner may order extra work or make changes by altering, adding to or deducting from the work, the contract sum being adjusted accordingly, and the consent of the surety being first obtained where necessary or desirable. All the work of the kind bid upon shall be paid for at the price stipulated in the proposal, and no claims for any extra work or materials shall be allowed unless the work is ordered in writing by the Owner, or the engineer acting officially for the Owner, and the price is stated in such order. Extra work shall be performed only upon the execution of authorized change orders as set forth in the preceding paragraph.

19. **TIME FOR COMPLETION AND LIQUIDATED DAMAGES:**

It is hereby understood and mutually agreed by and between the Contractor and the Owner that the date of beginning and the time for completion as specified in the contract of the work to be done hereunder are essential conditions of this contract; and it is further mutually understood and agreed that the work embrace din this contract shall be commenced on a date to be specified in the Notice to Proceed.

A. **Regular Prosecution of Work.** The contractor agrees that said work shall be prosecuted regularly, diligently and uninterruptedly at such rate or progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for completion of the work described herein is a reasonable time for completion of same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

B. **Liquidated Damages.** If the contractor shall neglect, fail, or refuse to complete the work within the time granted by the Owner, then the Contractor does hereby agree, as part consideration for the awarding of this contract, to pay to the Owner the amount specified in the contract not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the contract for completing the work. The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticality and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, and said amount is agreed to be in the amount of damages which the Owner would sustain and said amount shall be retained from time to time by the Owner from current periodical estimates.

C. **Extension of Time for Completion.** It is further agreed that time is of the essence of each and every portion of this contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the
essence of this contract. Provided, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due:

1. to any preference, priority or allocation order duly issued by the Government.

2. to unforeseeable cause beyond the control and without the fault or negligence of the contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another contractor in the performance of a contract with the Owner; fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather; and,

3. to any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections 1 and 2 of this article.

Provided, further, that the Contractor shall, within seven (7) days from the beginning of such delay, unless the Owner shall grant a further period of time prior to the date of final settlement of the contract, notify the Owner in writing of the causes of delay and notify the contractor within a reasonable time of its decision in the matter, and grant such extension of time as the Owner shall deem suitable and just.

20. CORRECTION OF WORK:

All work, all materials, whether incorporated in the work or not, all processes of manufacture, and all methods of construction, shall be at all times and places subject to the inspection of the engineer, who shall be the final judge of the quality and suitability of the work, materials, processes of manufacture, and methods of construction of the purposes for which they are used. Should they fail to meet his approval, they shall be forthwith reconstructed, made good, replaced and/or corrected, as the case may be, by the contractor at his own expense. Rejected material shall be removed from the site. If, in the opinion of the engineer, it is undesirable to replace any defective or damaged materials or to reconstruct or correct any portion of the work injured or not performed in accordance with the Contract Documents, the compensation to be paid to the Contractor hereunder shall be reduced by such amount as, in the judgement of the Engineer, shall be equitable.

21. SUBSURFACE CONDITIONS FOUND DIFFERENT

Should the contractor encounter subsurface and/or latent conditions at the site materially differing from those shown on the plans or indicated in the specifications, he shall immediately give notice to the Engineer of such conditions before they are disturbed.
The Engineer will thereupon promptly investigate the conditions, and if he finds that they materially differ from those shown on the plans or indicated in the specifications, he will at once make such changes in the plans and/or specifications as he may find necessary; any increase or decrease of cost resulting from such changes to be adjusted in the manner provided in paragraph 17 of these specifications.

A. Where no specific subsurface conditions are indicated or specified, no increase in cost will be considered in regards to subsurface conditions encountered.

22. CLAIMS FOR EXTRA COSTS:

No claim for extra work or cost shall be allowed unless the same was done in pursuance of a written order of the Engineer, as aforesaid, and the claim presented with the first estimate after the changed or extra work is done. When work is performed under the terms of subparagraph 17C of these specifications, the Contractor shall furnish satisfactory bills, payrolls and vouchers covering all items of cost and when requested by the Owner, give the Owner access to accounts relating thereto.

23. RIGHT OF OWNER TO TERMINATE CONTRACT:

In the event that any of the provisions of this contract are violated by the contractor or by any of his subcontractors, the Owner may serve written notice upon the Contractor and the surety of its intention to terminate the contract, such notices to contain the reasons for such intention to terminate the contract, and unless within ten (10) days after the serving of such notice upon the contractor, such violation or delay shall cease and satisfactory arrangement or correction be made, the contract shall, upon the expiration of said ten (10) days, cease and terminate. In the event of any such termination, the Owner shall immediately serve notice thereof upon the surety and the contractor, and the surety shall have the right to take over and perform the contract; provided, however, that if the surety does not commence performance thereof within ten (10) days from the date of the mailing to such surety of notice of termination, the Owner may take over the work and procedure same to completion by contract or by force account for the account and at the expense of the contractor, and the Contractor and his surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such even the Owner may take materials, appliances and plant as may be on the site of the work and necessary therefor. If the Contractor should die, be declared an incompetent, be declared bankrupt or insolvent, make an assignment for the benefit of creditors during the term of his contract, the Owner may terminate the contract in the manner and under the procedure set forth above with the exception of that no notices to the Contractor shall be required, but in lieu thereof the Owner must make a reasonable effort to notify the estate of the Contractor, his guardian, assignee, or legal representative of the intention to terminate and fact of termination, if there is any such guardian, assignee, or legal representative at the time the Owner desires to terminate.
24. CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES:

Immediately after execution and delivery of the contract and before the first partial payment is made, the Contractor shall deliver to the Owner an estimated construction progress schedule in form satisfactory to the Owner, showing the proposed dates of commencement and completion of each of the various subdivisions of work required under the contract documents and the anticipated amount of each monthly payment that will become due the Contractor in accordance with the progress schedule.

A. Contractor’s Estimate. The Contractor shall also furnish:

1. A detailed estimate, giving a complete breakdown of the contract price; and

2. Periodic itemized estimates of work done for the purpose of making partial payments thereon. The costs employed in making up any of these schedules will be used only for determining the basis of partial payments and will not be considered as fixing a basis for addition to or deductions from the contract price.

B. Equipment Delivery Schedule. The Contractor shall also prepare a schedule of anticipated shipping dates for materials and equipment. It is intended that equipment and materials be so scheduled as to arrive at the job site just prior to time for installation to prevent excessive materials on hand for inventory and the necessity for extensive storage facilities at the job site.

25. PAYMENTS TO CONTRACTOR shall be made according to the following:

A. Not later than the 25th day of each calendar month or as specified in the Supplemental General Conditions, Section 01001, the Owner shall make a progress payment to the contractor on the basis of a duly certified preceding calendar month under this contract, but to insure the proper performance of this contract, the Owner will retain a portion of each estimate until final completion and acceptance of all work covered by this contract in accordance with the following:

1. Retention of ten percent (10%) of payment claimed until construction is complete.

B. In preparing estimates, the material delivered on the site and preparatory work done may be taken into consideration so long as the contractor is fully covered with builder’s risk insurance.
C. All material and work covered by partial payments shall thereupon become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the Owner to require the fulfillment of all the terms of the contract.

D. **Owner’s Right to Withhold Certain Amounts and Make Application Thereof.** The Contractor agrees that he will indemnify and save the Owner harmless from all claims growing out of the lawful demands of subcontractors, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this contract. The Contractor shall, at the Owner’s request, furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If the Contractor fails so to do, then the Owner may, after having served written notice on the contractor, either pay unpaid bills, of which the Owner has written notice, direct, or withhold from the contractor’s unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed in accordance with the terms of this contract, but in no event shall the provisions of this sentence be construed to impose any obligations upon the Owner to either the contractor or his surety. In paying any unpaid bills of the contractor, the Owner shall be deemed the agent of the Contractor, and any payment so made by the Owner shall be considered as a payment made under the contract by the Owner to the contractor, and the Owner shall not be liable to the Contractor for any such payment made in good faith.

26. **ACCEPTANCE OF WORK AND FINAL PAYMENT:**

Before final acceptance of the work and payment to the Contractor of the percentage retained by the Owner, the following requirements shall be complied with:

A. **Final Inspection.** Upon notice from the Contractor that his work is completed, the engineer will make a final inspection of the work and shall notify the Contractor of all instances where his work fails to comply with the contract drawings and specifications, as well as any defects he may discover. The Contractor shall immediately make such alterations as are necessary to make the work comply with the contract drawings and specifications, and to the satisfaction of the Engineer.

B. **Operating Test.** After the alterations for compliance with the contract drawings and specifications have been made, and before acceptance of the whole or any part of work, it shall be subjected to test to determine that it is in accordance with the contract drawings and specifications. The Contractor shall maintain all work
in first-class condition for a thirty (30) day operating period after the work has been completed as a whole, the final inspection has been made, and the engineer has notified the Contractor in writing that the work has been finished to his satisfaction. The retained percentage as provided herein will not become due or payable to the Contractor until after the thirty (30) day operating period has expired.

**C. Cleaning up.** Before the work is considered as complete, all rubbish and unused material due to or connected with the construction must be removed and the premises left in a condition satisfactory to the Owner. Streets, curbs, crosswalks, pavements, sidewalks, fences and other public and private property disturbed or damaged should be restored to their former condition. Final acceptance will be withheld until such work is finished.

**D. Liens.** Final acceptance of the work will not be granted and the retained percentage will not be due or payable until the contractor has furnished the Owner proper and satisfactory evidence under oath that all claims for labor and material employed or used in the construction of the work under this contract have been settled, and that no legal claims can be filed against the Owner for such labor or material.

**E. Final Estimate.** Upon completion of all cleaning up, alterations and repairs required by the final inspection or operating test, the satisfactory completion of the operating test, and upon submitting proper and satisfactory evidence to the Owner that all claims have been settled, the contractor shall then prepare his final estimate. After review and approval of the final estimate, by the Engineer and the Owner, the payment shall then become due.

**27. ACCEPTANCE OF FINAL PAYMENT AS RELEASE:**

The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor for all things done or furnished in connection with this work and for every act and neglect of the Owner and others relating to or arising out of this work. No payment, final or otherwise, shall operate to release the Contractor or his sureties from any obligations under this contract or the performance and payment bond.

**28. PAYMENTS BY CONTRACTOR:**

The Contractor shall pay:

**A.** For all transportation and utility services not later than the 20th day of the calendar month following that in which services are rendered;
B. For all materials, tools, and other expendable equipment to the extent of ninety (90) percent of the cost thereof not later than the 20th day of the calendar month following that in which such materials, tools, and equipment are delivered at the site of the project, and the balance of the cost thereof not later than the 30th day following completion of that part of the work in or on which such materials, tools, and equipment are incorporated or used; and

C. To each of his subcontractors not later than the 5th day following each payment to the Contractor, the respective amounts allowed the Contractor on account of the work performed by his subcontractors to the extent of each subcontractor’s interest therein.

29. INSURANCE:

The Contractor shall procure and shall maintain during the life of this contract, whether such operation be by himself or by a subcontractor or anyone directly or indirectly employed by either of them, such insurance as required by statute and/or ordinance to adequately protect the Owner from any claims or damages, including bodily injury or death, which may arise from them during operations under this contract.

A. Limits of Liability. Insurance shall be obtained for not less than the limits of liability as specified in Section 01001 entitled Supplemental General Conditions.

B. Certificates of Insurance. The Contractor shall furnish the Owner, if requested, certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of the policies. Such certificates shall contain substantially the following statement: “The insurance covered by this certificate will not be cancelled or materially altered except after 10 days written notice has been received by the Owner.”

30. CONTRACT SECURITY:

The Contractor shall furnish a 100 percent performance bond and a 100 percent payment bond as security for the faithful performance of this contract, as security for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract. The performance bond and payment bond shall be in separate instruments. Before the final acceptance, each bond must be approved by the Owner.
31. ASSIGNMENTS:

The contractor shall not assign the whole or any part of this contract or any moneys due or to become due hereunder without written consent of the Owner. In case the Contractor assigns all or any part of any moneys due or to become due under this contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any moneys due or to become due to the Contractor shall be subject to prior claims of all persons, firms and corporations for services rendered or materials supplied for the performance of the work called for in this contract.

32. MUTUAL RESPONSIBILITY OF CONTRACTORS

If through acts of neglect on the part of the Contractor, any other contractor or any subcontractor shall suffer loss of damage on the work, the Contractor agrees to settle with such other contractor or subcontractor by agreement or arbitration. If such other contractor or subcontractor shall assert any claim against the Owner on account of any damage alleged to have been sustained, the Owner shall notify the contractor, who shall indemnify and save harmless the owner against any such claim.

33. SEPARATE CONTRACTS:

The Contractor shall coordinate his operations with those of other contractors. Cooperation will be required in the arrangement for the storage of materials and in the detailed execution of the work. The contractor, including his subcontractor, shall keep informed of the progress and the detail work of other contractors and shall notify the Engineer immediately of lack of progress or defective workmanship on the part of other contractors. Failure of a contractor to keep informed of the work progressing on the site and failure to give notice of lack of progress or defective workmanship by others shall be construed as acceptance by him of the status of the work as being satisfactory for proper coordination with his own work.

34. SUBCONTRACTING shall comply with the following:

A. The Contractor may utilize the services of specialty contractors on those parts of the work which under normal contracting practices are performed by specialty subcontractors. The maximum amount of the subcontract work shall not exceed thirty percent (30%) of the total contract price without prior approval of the Owner.

B. The Contractor shall not award any work to any subcontractor without prior written approval of the Owner, which approval will not be given until the contractor submits to the Owner a written statement concerning the proposed award to the subcontractor, which statement shall contain such information as the Owner may require.
C. The Contractor shall be as fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons employed by him.

D. The contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the General Conditions and other contract documents insofar as applicable to the work of subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provisions of the contract documents.

E. Nothing contained in this contract shall create any contractual relation between any subcontractor and the Owner.

35. ENGINEER’S AUTHORITY:

The Engineer shall determine the amount, quality, acceptability and fitness of the several kinds of work and materials which are to be paid for under this contract and shall decided all questions which may arise in relation to said work and the construction thereof. The Engineer’s estimates and decisions shall be final and conclusive, except as herein otherwise expressly provided. In case any questions shall arise between the parties hereto relative to said contract or specifications, the determination or decision of the Engineer shall be a condition precedent to the right of the contractor to receive any money or payment for work under this contract affected in any manner or to any extent by such question.

A. Interpretation of Drawings and Specifications. The Engineer shall decide the meaning and intent of any portion of the specifications and of any plans or drawings where the same may be found obscure or be in dispute. Any differences or conflicts in regard to their work which may arise between the Contractor under this contract and other contractors performing work for the Owner shall be adjusted and determined by the engineer.

36. STATED ALLOWANCES:

The Contractor shall include in his proposal the cash allowances. The contractor shall purchase the “allowed Material” by soliciting not less than three bids as directed by the Owner. If the actual price for purchasing the “Allowed Materials” is more or less than the “Cash Allowance”, the contract price shall be adjusted accordingly. The adjustment in contract price shall be made on the basis of the purchase price without additional charges for overhead, profit, insurance, or any other incidental expenses. The cost of installation of the “Allowed Materials” shall be included in the applicable sections of the contract specifications covering this work.
37. USE OF PREMISES AND REMOVAL OF DEBRIS:

The Contractor expressly undertakes at his own expense:

A. To take every precaution against injuries to persons or damage to property.

B. To store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or the work of any other contractors.

C. To place upon the work or any part thereof only such loads as are consistent with the safety of that portion of the work.

D. To clean up frequently all refuse, rubbish, scrap materials, and debris caused by his operations, to the end that at all times the site of the work shall present a neat, orderly and workmanlike appearance.

E. Before final payment to remove all surplus material, falsework, temporary structures, including foundations thereof, plant of any description and debris of every nature resulting from his operations, and to put the site in a neat, orderly condition.

F. To effect all cutting, fitting or patching of his work required to make the same conform to the plans and specifications, and, except with the consent of the Engineer, not to cut or otherwise alter the work of any other contractor.

38. QUANTITIES OF ESTIMATE:

The estimated quantities of work to be done and materials to be furnished under this contract, shown in any of the documents, including the proposal, are given for use in comparing bids, and the right is especially reserved except as herein otherwise specifically limited, to increase or diminish them as may be deemed reasonably necessary or desirable by the Owner to complete the work contemplated by this contract, and such increase or diminution shall in way vitiate this contract, nor shall any such increase or diminution give cause for claims or liability for damages.

39. RIGHTS-OF-WAY AND SUSPENSION OF WORK

The Owner shall furnish all land and rights-of-way necessary for the carrying out of this contract and the completion of the work herein contemplated, and will use due diligence in acquiring said land and rights-of-way as speedily as possible. But it is possible that all lands and rights-of-way may not be obtained as herein contemplated before construction begins, in which event the Contractor shall begin his work upon such land and rights-of-way as the Owner may have previously acquired, and no claim for damages whatsoever
will be allowed by reason of the delay in obtaining the remaining lands and rights-of-way.

Should the Owner be prevented or enjoined from proceeding with the work, or from authorizing its prosecution, either before or after the commencement, by reason of any litigation or by reason of its ability to procure any lands or rights-of-way for said work, the Contractor shall not be entitled to make or assert claim for damage by reason of said delay or to withdraw from the contract except by consent of the Owner; but time for completion of the work will be extended to such time as the Owner determines will compensate for the time lost by such delay, such determination to be set forth in writing.

40. GENERAL WARRANTY FOR ONE YEAR AFTER COMPLETION OF CONTRACT:

For a period of at least one year after the completion of the contract, the Contractor warrants the fitness and soundness of all work done and materials and equipment put in place under the contract, and neither the final certificate of payment nor any provision in the contract Documents nor partial or entire occupancy of the premises by the Owner shall constitute an acceptance of work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The contractor shall remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of final acceptance of the work, unless a longer period is specified. The Owner will give notice of observed defects with reasonable promptness.

41. NOTICE AND SERVICE THEREOF:

Any notice to any Contractor from the Owner relative to any part of this contract shall be in writing and considered delivered and the service thereof completed, when said notice is posted by registered mail to said Contractor or his authorized representative on the work, or is deposited in the regular United States Mail in a sealed, postage prepaid envelope and the receipt thereof is acknowledged by the contractor.

A. Owner’s Notice. All papers required to be delivered to the Owner shall be delivered as indicated in Section 01001 entitled Supplemental General Conditions.

42. REQUIRED PROVISIONS DEEMED INSERTED:

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein, and the contract 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 the application of either party the contract shall forthwith be physically amended to make such insertion or correction.
43. PROTECTION OF LIVES AND HEALTH:

In order to protect the lives and health of his employees under the contract, the contractor shall comply with all pertinent provisions of the “Manual of Accident Prevention in Construction” issued by the Associated General Contractors of America, Inc., and shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work under the contract. The Contractor alone shall be responsible for the safety, efficiency and adequacy of his plant, appliances and methods, and for any damage which may result from their failure or their improper construction, maintenance or operation.

44. WAGES AND OVERTIME COMPENSATION:

The contractor and each of his subcontractors shall comply with all applicable State and local laws or ordinances with respect to the hours worked by laborers and mechanics engaged in work on the project and with respect to compensation for overtime.

45. PROHIBITED INTERESTS:

No official of the Owner, who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept, or approve or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction, or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part hereof. No officer, employee, architect, attorney, engineer, or inspector of or for the Owner, who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the project shall become directly or indirectly interested personally in this contract or in any part hereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

46. CONFLICTING CONDITIONS:

Any provision in any of the Contract Documents which may be in conflict or inconsistent with any of the paragraphs in these General Conditions shall be void to the extent of such conflict or inconsistency.

47. PUBLIC CONVENIENCE AND PROTECTION

The convenience and protection of the public must be provided for at all times during progress of the work. The Contractor shall be solely responsible to protect others and work from harm, conduct the work in such a manner as to insure the least practicable
obstruction to the public and residents near and adjacent to the area of work. Roads and streets shall be kept open at all times or suitable detours provided. When it becomes necessary to close streets, suitable signs and barricades shall be placed and adjacent to the work in proper locations and the Owner, Engineer, law enforcement agencies, fire departments, and all parties operating emergency vehicles shall be notified before the street is closed and again as it is reopened. All closed streets shall be opened at the end of each working day. Access to fire hydrants and other firefighting equipment shall be maintained at all times.
SECTION 01001

SUPPLEMENTAL GENERAL CONDITIONS

1. ENUMERATION OF PLANS, SPECIFICATIONS AND ADDENDA

   A. The plans, specifications and addenda which form a part of this contract as set forth in Paragraph 1 of the General Conditions, Contract, and Contract Documents are enumerated in the Table of Contents.

2. CONTRACTOR’S AND SUBCONTRACTOR’S INSURANCE

   A. As required under Paragraph 29 of the General Conditions, the Contractor shall not commence work under this contract until he has obtained all the insurance required under this paragraph and such insurance has been approved by the Owner, nor shall the contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved.

   1. Special Hazards: The Contractor’s and his Subcontractor’s Public Liability and Property Damage Insurance shall provide adequate protection against use of explosives, collapse, and underground hazards.

   2. Compensation Insurances: The Contractor shall procure and shall maintain during the life of this contract Workmen’s Compensation Insurance. In case any such work is sublet, the Contractor shall require the Subcontractor similarly to provide Workmen’s Compensation Insurance for all of the latter’s employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor’s Workmen’s Compensation Insurance. In case any class of employees engaged in hazardous work on the project under this contract is not protected under the Workmen’s Compensation Statute, the contractor shall provide and shall cause such subcontractor to provide and Workmen’s Compensation policy for the protection of such of his employees not otherwise protected.

   3. Comprehensive General Liability Insurance: The Contractor shall take out and maintain during the life of the contract such comprehensive general work covered by this Contract from claims for damage for personal injury, including accidental death, as well as from claims for property damage, which may arise from operations under this contract whether such operations are by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. The amount of such insurance shall be as follows:
a. Bodily Injury and Personal Injury in an amount not less than $500,000 per occurrence, and subject to a limit of not less than $1,000,000 during a period of twelve months.

b. Property Damage Insurance in an amount not less than $500,000 for any one damage claim, and in an aggregate amount up to $1,000,000 during a twelve month period.

4. Comprehensive Automobile Liability Insurance

a. For bodily injury, including accidental death to any one person, in an amount not less than $200,000 and with a limit of not less than $500,000 on account of one accident.

b. For property damage in an amount not less than $150,000 per accident.

5. Broad Form Blanket contractual Liability Insurance

a. For bodily injury in an amount not less than $500,000 per occurrence and not less than $1,000,000 during a period of twelve months.

b. For property damage in an amount not less than $150,000 per occurrence and not less than $300,000 during a period of twelve months.

c. The Contractor shall indemnify the Owner and the Engineer as follows:

1. The Contractor will indemnify and hold harmless the Owner and the Engineer and their agents and employees from and against all claims, damages, losses, and expenses including attorney’s fees arising out of or resulting from the performance of the work, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, or taking of property, including the loss of use resulting therefrom; and is caused in whole or part by any negligent or willful act or omission of the contractor and Subcontractor, anyone directly or indirectly employed by any of them or anyone of whose acts any of them may be liable.
2. In any and all claims against the Owner or the Engineer, or any of their agents or employees, by any employee of the contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount of type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workmen’s compensation acts, disability benefit acts or other employee benefits acts.

3. The obligation of the contractor under this paragraph shall not extend to the liability of the Engineer, his agents or employees arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications.

4. Owner’s Protective Liability Insurance: Issued in the name of the Owner for liability and property damage under 3(a) and 3(b) above, in the same amounts as stipulated for the Contractor.

5. “All Risks” Builders Risk Insurance: For the full contract value of the insurable portions of the Work.

6. Flood Insurance: The Contractor is required to carry flood insurance for projects located in designated flood hazard areas in which Federal Flood Insurance is available.

7. Proof of Coverage of Insurance: The contractor shall furnish the Owner with a certificate showing satisfactory proof of carriage of this insurance required prior to commencing work on his contract.

8. Scope of Insurance: The insurance required under subparagraphs 2, 3, 4, 5, and 7 hereof shall provide adequate protection for the Contractor and his Subcontractors respectively, as well as the Owner, against damage claims which may arise from operations under this Contract, whether such operations be by the insured or by anyone directly or indirectly employed by him.

6. ABBREVIATIONS AND DEFINITIONS

A. Abbreviations used in these Specifications refer to the following:
B. Definitions: Wherever in the specifications or upon the drawings the words “directed”, “required”, “permitted”, “ordered”, “designated”, “prescribed”, or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation or prescription of the Owner is intended; and similarly, the words “approved”, “acceptable”, “satisfactory”, or words of like import shall mean approved by, or acceptable to, or satisfactory to the Owner, unless otherwise expressly stated.

7. PHOTOGRAPHS OF PROJECT – Owner will photograph all rights of ways after awarding the project.

8. SCHEDULE OF OCCUPATIONAL CLASSIFICATIONS AND MINIMUM HOURLY WAGE RATES

A. Not applicable

9. NOTICE AND SERVICE THEREOF

A. All papers required to be delivered to the Owner shall, unless otherwise specified in writing to the Contractor, be delivered to the Owner’s representative as indicated below, and any notice to or demand upon the Owner shall be sufficiently given if delivered to the office of said representative, or if deposited in the United States Mail, in a sealed postage prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission, in each case addressed to the Owner’s representative as indicated below, or to such other representative of the Owner, or to such other address as the Owner may subsequently specify in writing to the Contractor for such purposes. The Owner’s representative is as follows:

Mr. Kent Gurthrie
City of Clemson
1250 Tiger Blvd, Ste. 5
Clemson, SC 29631
10. CORRELATION OF PLANS AND SPECIFICATIONS

A. The contract, plans, and specifications are to be interpreted as mutually explanatory or supplementary, and therefore any features shown in one and not in the other shall have the same force and effect as if shown by both, and shall be fully executed. Prior to execution of the work, the Contractor shall check all drawings and specifications, and shall immediately report to the Engineer all errors, discrepancies, conflicts and omissions discovered therein. All such errors, discrepancies, conflicts and omissions will be adjusted by the Engineer, and adjustment by the contractor without prior approval shall be at his own risk. The settlement of any complications arising from such adjustments shall be made by the contractor at his own expense and to the satisfaction of the Owner.

11. OWNERSHIP OF DRAWINGS

A. All drawings, specifications, and memoranda relating to the work are the property of the Owner and are to be carefully used and returned to the Owner upon completion or cessation of the work from any cause.

B. Contract Documents to be Furnished: Five (5) sets of specifications and plans will be furnished the Contractor without charge. Additional sets can be secured from the Engineer upon request at cost of reproduction. The Contractor shall have available on the project site at all times one (1) copy of each of said plans and specifications.

12. ORDER OF WORK

A. The prosecution, order, or sequence of the work shall be as approved by the Engineer, which approval, however, shall in no way affect the responsibility of the Contractor.

13. PHYSICAL DATA

A. The drawings, which accompany and form a part of the contract, have been prepared on the basis of surveys and inspections of the site, and are intended to present an essentially accurate indication of the physical conditions at the site. However, this shall not relieve the contractor of the necessity for familiarizing himself
with physical conditions at the site, and any discrepancies found in the drawings shall not be grounds for claims by the Contractor against the Owner, or for non-performance of work specifically provided for under the Contract.

14. ORGANIZATION, PLANT AND PROGRESS

A. The following is supplemental to Paragraph 16 of the General Conditions:

1. The Contractor shall give his personal superintendence to the work, or shall have a competent superintendent with authority to act for him, to the satisfaction of the Engineer, on the job at all times during the progress of the work.

2. The Contractor shall employ an ample force of properly experienced men and provide construction plant properly adapted to the work and of sufficient capacity and efficiency to accomplish the work in a safe and workmanlike manner at a rate of progress satisfactory to the Owner. All plants shall be maintained in good working order and provision shall be made for immediate emergency repairs. No reduction in the capacity of the plant employed on the work shall be made except by written permission of the Owner. The measure of the capacity of the plant shall be its actual performance on the work to which these specifications apply. Award of the contract shall not be construed as a guaranty by the Owner listed by the Contractor for use on this contract is adequate for the performance of the work.

3. Should the Contractor fail to maintain a rate of progress which, in the opinion of the Owner, will complete work within the time limit specified, the Owner may require that additional men working, if necessary, during additional periods or shifts, or additional plant, or both, be placed on the work; or a reorganization of plant layout be effected in order that the progress of the work be brought up to schedule and so maintained. Should the contractor refuse or neglect so to increase the number of men, working period, or plant, or to reorganize the plant layout in the manner satisfactory to the Owner, the latter may proceed under the provisions of the Contract to rectify the conditions.
15. SUPERVISION AND INSPECTION

A. The Owner shall require inspection by the Engineer to insure that construction conforms to the approved plans and specifications.

1. The work shall be conducted under the general direction of the Engineer and will be inspected and periodically by inspectors appointed by him. The inspectors will keep a record of work done and see that the location and limit marks are kept in proper order, but the presence of the inspectors shall not relieve the Contractor or his responsible agent of responsibility for the proper execution of the work.

B. The Contractor will be required to furnish at his expense such labor, organization and materials which form a part of the ordinary and usual equipment and crew of the contractor as may be reasonably necessary in inspecting and supervising the work. Should the contractor refuse, neglect or delay compliance with this requirement, the specified facilities may be furnished and maintained by the Owner and the cost thereof will be deducted from any amounts due, or to become due, the Contractor.

1. Except as specified in this paragraph, or otherwise provided for in these specifications, all expenses of supervision and inspection will be borne by the Contractor.

C. It is understood that any instruction or decision given by the Engineer is to be considered the instruction or decision of the Owner, in all cases where, under the terms of this contract, decision rests with the Engineer.

D. The work shall be entirely under the control of the Engineer and Owner, and he or his authorized representative shall have access to same at all times. The Engineer may require the Contractor to dismiss such employees as he deems to be incompetent or careless.

16. STANDARD TESTS, QUALITY AND GUARANTEES

A. Standard tests, quality and guarantees shall comply with the following:

1. All materials, supplies and parts and assemblies thereof, entering into the work to be performed under these specifications, shall be tested as specified herein or otherwise required, in conformity with the contract and
according to the best modern approved methods for the particular type and class of work.

2. Unless waived in writing by the Engineer, all tests and trials shall be made in the presence of duly authorized representative of the Engineer. When the presence of the inspector is so waived, sworn statements in duplicate of the tests made and results thereof shall be furnished to the Engineer by the Contractor as soon as possible after completion of tests.

3. Unless otherwise authorized, directed or specified, where standard published specifications of recognized authorities and organizations are mentioned, the latest revision of such specification current at the time when the work is executed shall govern.

4. All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with accepted standards. The laboratory or inspection agency shall be selected by the Owner. The Owner will pay for all laboratory inspection service as part of the contract.

5. Materials of construction, particularly those upon which the strength and durability of the structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for uses intended.

6. In accordance with the Contract, all materials, parts and equipment furnished and incorporated in the work shall be high grade, free from defects and imperfections, of recent manufacture and unused. Workmanship shall be of the highest grade and in accordance with the best modern standard practice.

17. STANDARD PRODUCTS

A. All materials, supplied and articles furnished shall, wherever specified and otherwise wherever practicable, be the standard products of recognized, reputable manufacturers. The standard products of manufacturers other than those specified will be accepted when it is proven to the satisfaction of the Engineer, in accordance with the contract, that they are equal in strength,
durability, usefulness and convenience for the purpose intended. Any changes required in the details and dimensions indicated on the drawings, or the substitution of standard products other than those provided for, shall be properly made as approved by the Engineer and at the expense of the Contractor.

18. WORK ON HIGHWAY RIGHT-OF-WAY

The Contractor shall not begin work on any right-of-way of the State, County, or City Highway Department until all required permits have been secured and the Highway Department notified by the contractor that work is beginning. The Contractor shall conform to all requirements of the respective highway department and shall be responsible for contacting all Highway Departments to determine all requirements for the work to be done.

The Contractor shall provide a full-time flagman at all times that work is in progress for the purpose of warning and directing traffic. Proper warning signs shall be placed at each end of the area while work is in progress and shall remain in place until completion of the work. The signs shall be maintained by the contractor at all times and shall be placed at such distance from the work area so that sufficient warning is given to oncoming traffic. All signs shall be properly lighted at night and shall conform to the latest S.C. manual on traffic control devices for streets and highways.

All open cuts in highway rights-of-way shall be immediately backfilled at all work to repair pavement completed immediately. All pavement cuts are to be saw cut in a straight line. All ragged and broken edges of pavement are to be recut so as to provide a smooth and straight trench line prior to repaving. All damage to adjacent pavement caused by construction operations is to be repaired at the direction of and to the satisfaction of the respective highway departments having jurisdiction over the highway’s rights-of-ways. This repair work shall be done by the contractor at no additional cost to the Owner.

Excavation material shall not be placed on the pavement side of the trench excavation along highways. All loose dirt and debris shall be removed from the pavement at the end of each working day. All open ditches are to be filled at the end of each working day and properly barricaded to prevent damage to persons and vehicular traffic. Equipment shall not be placed on the shoulder or edges of the roads and highways during shutdown. All shoulders of roads and highways shall be left in good and acceptable condition and all disturbed topsoil and grass shall be replaced.
SECTION 01002
UNDERGROUND DAMAGE PREVENTION
SOUTH CAROLINA AREA

01. GENERAL: For work in South Carolina, the “Underground Damage Prevention Act” shall be followed to avoid damage to existing underground utilities.

A. At the beginning of the project, the Owner shall provide the contractor with names of all underground utility owners in the project area.

B. Contractor Responsibilities:

1. The contractor shall, within a time frame of not less than 2 or no more than 10 working days prior to the start of excavation within any public right-of-way or private easement areas owned by a utility company, notify each utility owner having underground utilities in the area to be excavated of the following information:
   
   a. Name, address and telephone number of the person serving the notice.
   
   b. Name, address, and telephone number of the company that will be performing the excavation.
   
   c. Anticipated starting date of the excavation and duration.
   
   d. Type of excavation to be conducted.
   
   e. Location of excavation.
   
   f. Whether or not explosives will be used.

2. If the notice is given by telephone, the contractor is required to keep an adequate record. In addition to serving notice of intent to perform excavation, the contractor shall:
   
   a. Plan the excavation to avoid damage and to minimize interference with underground utilities in and near the construction area to the best of his abilities.
   
   b. Maintain a clearance between an underground utility and the cutting edge or point of any mechanized equipment, taking into account the known limit of control of that cutting edge or point, as is reasonably required to avoid damage, and
c. Provide support for the underground utilities in or near the construction area, including backfill, as may be reasonably required by the utility owner for the protection of the underground utilities.

3. When excavation by a contractor results in known damage to an underground utility, the owner of the underground utility must be immediately notified and the utility be given a reasonable time to repair the damage before the contractor proceeds with the excavation in the immediate area of the damage.

C. Utility Responsibility:

1. Once notified, each utility must, prior to the day designated by the contractor as the anticipated start date for excavation, provide the contractor with the following information to the extent such information is reflected by records in the possession of and reasonably available to the utility owner.

   a. The location (location by the law, is defined as a strip of land not wider than the width of the utility plus 2-1/2 feet on either side) and description of all of the underground utilities which may be damaged as a result of the excavation.

   b. The location and description of all utility markers indicating the location of the underground utilities, and

   c. Any other information that would assist in locating and avoiding damage to the underground utilities, including providing temporary markings when necessary indicating the location of the underground utility in locations where permanent utility markers do not exist.

D. If a utility company fails to respond to a contractor’s notice or fails to locate properly its underground utilities, the contractor is free to proceed with the excavation. Neither the contractor nor the owner will be liable to the non-responding or improperly responding utility owner for damages to the facilities if the contractor exercises due care to protect existing underground utilities when there is evidence of their existence near the proposed excavation site.

E. To assist contractors and utility owners in meeting the requirements of this law, there is in South Carolina a “one call system” called “Palmetto Utilities”. Most major utilities with underground facilities in the state subscribe to this service. If a contractor provides the required notice to this organization, Palmetto Utilities will in turn, notify each individual member utility owner which has underground utilities in the area of the proposed excavation. At the time of notifications,
Palmetto utilities can advice the contractor of its members that will be notified so individual contact can be made if necessary. For calls originating within South Carolina, Palmetto Utilities’ telephone number is 1-800-922-0983. For calls originating outside of South Carolina, the number is 803-791-5367. You may call collect to locate lines.

END OF SECTION
SECTION 01060

REGULATORY REQUIREMENTS

A. The following retirements of Regulatory Agencies having an interest in this project are hereby made a part of this Contract.

B. The construction of the project, including the letting of contracts in connection therewith, shall conform to the applicable requirements of State, territorial and local laws and ordinances to the extent that such requirements do not conflict with Federal laws and this subchapter.

C. State Sales Tax. All applicable state sales tax shall be to the account of the Contractor.

D. Use of chemicals. All chemicals used during the project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polder, reactant or of other classification, must show approval of EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.

E. Safety and Health Regulations: The contractor shall be solely responsible to comply with the Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL 91-54).

F. Inspection by Agencies: The representatives of the S.C. Department of Health and Environmental Control shall have access to the work wherever it is, in preparation or in progress, and the contractor shall provide proper facilities for such access and inspection.

G. Withholding for Non-Residents shall comply with the following:


2. If a non-resident contractor is the successful bidder on this project, he shall be required to post surety bond, or deposit cash or securities with the South Carolina Tax commission in compliance with the Act. Proof of such coverage shall be filed with the City of Clemson before work is started.
3. If the Contractor fails to comply with the requirements of the South Carolina Tax Commission, two percent (2%) of each and every payment made to the Contractor shall be retained by the City of Clemson to satisfy such requirements.

H. Bypassing of Wastewater: No wastewater bypassing will be permitted during construction unless a schedule has been approved by the South Carolina Department of Health and Environmental Control and the City of Clemson.

I. Connection to Existing Facilities: No new construction shall be connected to existing facilities unless directed by the City of Clemson.

END OF SECTION
SECTION 01061
PERMITS, FEES, AND RIGHTS-OF-WAY

PART 1 – GENERAL

1.1 DESCRIPTION

Work included: This section establishes requirements pertaining to the securement and payment for licenses, utility connection fee, building permits, rights-of-way, etc. necessary for the construction of the project.

1.2 SUBMITTALS

A. Submit to the City of Clemson satisfactory evidence that all necessary licenses, building permits, etc. have been secured prior to commencing the work.

PART 2 – PRODUCTS

No products are required for this work.

PART 3 – EXECUTION

3.1 BUSINESS LICENSE

A. Determine licenses necessary to perform the work at project location.

B. Purchase a City of Clemson business license.

3.2 BUILDING PERMITS

A. Secure all building permits required whether or temporary or permanent nature.

3.3 RIGHTS-OF-WAY

A. Provide necessary right-of-way or easements for construction staging areas whether on privately or publicly owned property as required by the City of Clemson.
SECTION 01090

REFERENCE STANDARDS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Throughout the Project Documents, reference is made to specifications and standards issued by nationally recognized professional and/or trade organizations.

1. These referenced standards are generally identified by abbreviating the name of the organization following with the specification/standard number.

2. Unless specifically indicated otherwise, all references to standards refer to the latest edition available at the time of the bidding.

END OF SECTION
SECTION 01400

MEASUREMENT AND PAYMENT

GENERAL: This section is the basis for payment for work to be completed under the items listed in the Bids, each amount shall include all labor, materials, tools, equipment, transportation, overhead, profit, insurance, taxes, and all other costs necessary for a complete installation and placement in service of the work. No additional compensation will be considered, except for work approved by the Owner as a change to the work as bid.

1. MOBILIZATION (BID ITEM NO.1) Mobilization shall be paid for as a lump sum amount and is to include the cost for insurance; payment and performance bonds; the contractor's cost for moving personnel, equipment, and temporary offices to the job site; and other incidentals incurred prior to beginning actual construction of the project.

Payment for the cost of mobilization will be limited to a maximum of 5% of the total bid.

2. TRAFFIC CONTROL MEAUSURES (BID ITEM NO.2): Shall be paid for as a Lump Sum. This unit price shall include all equipment and labor required to meet the standards of the latest edition MUTCD and the SCDOT Supplement to the MUTCD throughout the duration of the project. The unit price shall also include the drafting of plans to be provided to the City before traffic control installation.

3. EROSION CONTROL (BID ITEM NO.3): Shall be paid for as a Lump Sum. This unit price shall include all equipment and labor required for installation and maintenance of silt fence, construction entrances, and associated apertures.

4. CLEARING AND GRUBBING (BID ITEM NO.4): Shall be paid for as Lump Sum. Perform clearing by removing and disposing of all vegetation, rubbish, logs, roots, foundations, framework, utility connection not in service, fences, signs, posts, portion of structures not otherwise provided for, and other objectionable material indicated or considered necessary to satisfactorily complete the work. Remove all materials created by the clearing and grubbing operation from the project by disposing of the removed materials. Payment for clearing and grubbing included all direct and indirect cost and expenses required to complete the work in an acceptable manner.

5. HDPE PIPE (BID ITEMS NO. 5 & 6): Shall be paid for as linear foot installed. The unit price shall include ADS N-12 Dual Wall Pipe (or approved equal), couplings, fittings, bedding, tie in to structures, necessary erosion control, inlet protection measures, flow diversion, existing pipe and suitable backfill material and all materials necessary for a complete and proper installation. Reinforced Concrete Pipe (RCP) may be substituted for HDPE if the run between manholes is uniform.
6. **60” PRE-CAST HEADWALL (BID ITEMS NO. 7):** Shall be paid for as each. Provide and install a complete precast headwall that can receive a 60” HDPE pipe per the detail on the drawings. The unit price will include all necessary items including site work, excavation and compaction by mechanical means, suitable backfill, grouting the new pipe into place, concrete brick build up, clean up and disposal of waste concrete, and all materials necessary for complete and proper installation.

7. **MODIFY EXISTING HEADWALL (BIT ITEM NO. 8):** Shall be paid for as each. Each headwall is to be modified to be able to accept the new pipe. The unit price will include all necessary items including site work, excavation and compaction by mechanical means, suitable backfill, grouting the new pipe into place, concrete brick build up, clean up and disposal of waste concrete, and all materials necessary for complete and proper installation.

   a. The headwall and tailwall should be modified to accept the new HDPE pipe and grouted in place.

   b. The throat may need to be extended with rip-rap to reduce the chance on undermining.

8. **RIP-RAP INLET/OUTLET PROTECTION (BID ITEM NO. 9):** Shall be paid for as the unit price per Ton installed. The unit price shall include setup, filter fabric between rip-rap and soil foundation, and all materials for a complete and proper installation.

   a. The rip-rap shall be Classified as Class A rip-rap with a minimum D50 of 12”

   b. The rip-rap must be no higher than the invert of the pipe and have a depth of 1 FT to avoid the rip-rap from entering through the pipe if located at the inlet.

   c. The rip-rap apron shall extend a minimum of 2 ft behind/above the top of the inlet/outlet of the pipe.

9. **6” STONE BASE (BID ITEM NO. 10):** Shall be paid for as square yard installed. The unit price shall include all materials, equipment, and labor required to furnish and consolidate in place.

10. ** ASPHALT PAVING (BIT ITEM NO. 11):** Shall be paid for as square yard installed. The unit price shall include all items necessary including setup, tack, asphalt all materials necessary for a complete and proper installation. The asphalt thickness is – binder 2”, finish course 2”. There is no indexing.

11. **STABILIZATION (BID ITEM NO. 12):** Shall be paid for as a Lump Sum. After all fine grading and channel realignment has taken place the site should be stabilized following the plans, all areas disturbed should at a minimum have a stand of grass prior to payment with no excessive bare spots. If the grass exceeds 24” in height it should be cut and if necessary re-
sown, this item should include all necessary equipment and resources to place grass seed, through either mechanical or hand installation as well as any necessary soil testing and fertilizer and watering to provide a healthy stand of grass.

END OF SECTION
CONTRACT CLOSEOUT

PART 1 – GENERAL

1.1 DESCRIPTION

A. Work included shall be providing compliance with the requirements of the General Conditions of these specifications for administrative procedures in closing out the project work.

1.2 SUBSTANTIAL COMPLETION

A. The Contractor shall notify the engineer that, in his opinion, the total project is substantially complete.

1. Because of having to start-up and operate units at different times, the Owner shall have beneficial use of the new work prior to the substantial completion of the total project. Substantial completion will be all units are on line and properly operating.

B. Upon receipt of the Contractor’s notice, the engineer shall make an inspection to determine if substantial completion is provided.

C. If, in the Engineer’s opinion, the project is not substantially complete, a written notice to the Contractor shall follow outlining reasons and deficiencies in work which comprised his decision. The Engineer’s decision shall be final.

D. Generally, substantial completion shall be defined as all units, facilities, and site work which have been properly installed or completed and have been properly functioning for not less than 30 continuous days.

1.3 FINAL INSPECTION

A. The Engineer will make a final inspection for the Contractor after any and all items noted in the substantial completion inspection have been corrected. The Contractor shall notify the Engineer when a final inspection is needed. Incomplete and/or defective work shall be given to the Contractor by written notice.

1.4 REINSPECTION
A. Reinspections required due to failure by the Contractor to make previously noted corrections will be performed by the Engineer.

B. Reinspections will continue until the work is acceptable to the Engineer.

1.5 COMPLETION BY CONTRACTOR

A. When the Engineer finds the Contractor’s work acceptable, the Contractor shall be given such notice and should proceed with closeout submittals.

B. Closeout submittals shall contain at least the following:

1. Project record documents.
2. Equipment operation and maintenance manuals and copies of start-up reports.
3. Warranties and bonds.
4. Keys and keying schedule.
5. Spare parts and manuals.
6. Evidence of payment and release to liens per General Conditions.

1.6 FINAL PAYMENT

A. Final Payment to the contractor will be made upon completion of the previous items and others required by these specifications. A final statement shall be forwarded to the Engineer. The statement shall address:

1. Previous change orders.
2. Unit prices.
3. Deductions for liquidated damages.
4. Adjusted contract sum.
5. Amount due.

B. When required, the Engineer will prepare a contract change order for adjustments not previously made.

END OF SECTION
SECTION 02221

TRENCHING, BACKFILLING FOR UTILITIES

PART 1 - GENERAL
1.1 DESCRIPTION
A. Work included: Trench, backfill, and compact as specified herein and as needed for installation of underground utilities associated with the Work.

1.2 QUALITY ASSURANCE
A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
B. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.

1.3 JOB CONDITIONS
A. Existing Utilities:
   1. There now exists in the construction areas, waterworks, storm drainage, sanitary sewers, street paving, gas mains, underground electricity, and other utilities.
   2. Approximate location of certain underground lines and structures are shown on the plans for information only, other underground lines or structures are not shown.
   3. Locate these and other possible unknown utility lines using electronic pipe finder, or other approved means.
   4. Locate, excavate and expose all existing underground lines in advance of trenching operations.
   5. The Contractor will be held responsible for the workmanlike repair of any damage done to any of these utilities in the prosecution of his work under this Section.
   6. The Contractor shall familiarize himself with the existing conditions and be prepared to adequately care for and safeguard himself and the City of Clemson from damage.

B. Notification of intent to excavate:
   1. South Carolina Underground Utility Damage Prevention Act (S.C. Code Ann, 58-35-10, CT-SEQ, Supp. 1978) requires persons to ascertain the location of underground public utility property prior to excavation or demolition in certain situations. The Act also requires such persons to give timely notice of intent to excavate or demolish prior to commencing such operations. Failure to comply could subject the violator to a civil penalty of up to one thousand dollars ($1,000) for each violation of the Act.
   2. Notification of intent to excavate may be given by calling this toll free number: 1-888-721-7877.

C. Protecting trees, shrubbery and lawns:
   1. Where noted by the City of Clemson, trees and shrubbery in developed areas and along the trench line shall not be disturbed unless absolutely necessary, and subject to the approval of the City of Clemson.
      a. Any such trees and shrubbery necessary to be removed shall be heeled in and replanted.
   2. Where trenches cross private property through established lawns, sod shall be cut, removed, stacked and maintained in suitable condition until replacement is approved by
the City of Clemson.
a. Topsoil underlying lawn areas shall be removed and kept separate from
general excavated materials.

D. Clearing:
1. Perform all clearing necessary for installation of the complete work.
2. Clearing shall consist of removing all trees, stumps, roots, brush and debris in the
rights-of-way obtained for the Work.
3. All timber of merchantable size shall remain the property of the City of Clemson
and shall be trimmed and cut in such lengths as directed and stacked along the edge
of the right-of-way.
4. All other material, including trimmings from above, shall be completely disposed of in
a satisfactory manner.

E. Removing and resetting fences:
1. Where existing fences must be removed to permit construction of utilities:
   a. Remove such fences and, as the Work progresses, reset the fences in their
      original location and condition.
   b. Provide temporary fencing or other safeguards as required to prevent
      stock and cattle from wandering to other lands.

F. Restoration of disturbed areas:
1. Restore all areas disturbed by, during or as a result of construction
   activities to their existing or better condition.
2. Do not interpret this as requiring replacement of trees and undergrowth in
   undeveloped sections of the rights-of-way.

G. Minimizing silting and bank erosion during construction:
1. During construction, protective measures shall be taken and maintained to
   minimize silting and bank erosion of creeks and rivers adjacent to the work being
   performed during construction.

H. Blasting:
1. Store all explosives in a secure manner, complying with all laws,
   ordinances, and regulations.
2. Contractor shall be responsible for damage caused by blasting operations.

PART 2 - PRODUCTS

2.1 EXCAVATED MATERIALS
A. Perform all excavation of every description and of whatever
   substances encountered to depths indicated or specified.
B. Pile material suitable for backfilling in an orderly manner at safe distance from
   banks of trenches to avoid overloading and to prevent slides or cave-ins.
C. Remove and deposit unsuitable or excess materials as directed by the City of
   Clemson.

2.2 BACKFILL MATERIALS
A. Provide from materials excavated for installation of utility.
   1. Select soil material free from organic matter and deleterious substances,
      containing no rocks or lumps over 2 inches in greatest dimension for backfill
      up to 12 inches above top of utility being covered.
   2. Do not permit rocks larger than 2 inches in greatest dimension in top 6
      inches of backfill.

2.3 OTHER MATERIALS
A. Provide other materials, not specifically described but required for a complete and proper
   installation, as selected by the Contractor subject to the approval of the City of
3.1 PROCEDURES

A. Existing Utilities:
   1. Unless shown to be removed, protect active utility lines shown on the drawings or otherwise made known to the Contractor prior to trenching. If damaged, repair or replace immediately.
   2. If active utility lines are encountered and are not shown on the Drawings or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.
   3. If service is interrupted as a result of work under this Section, immediately restore service by repairing the damage utility.
   4. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the City of Clemson and secure his instructions.
   5. Do not proceed with permanent relocation of utilities until written instructions are received from the City of Clemson.

B. Locations within streets or highways:
   1. Comply with S. C. Department of Highways and Public Transportation "Encroachment Permit" issued for the Work and local requirements, if applicable.
   2. Take all precautions and comply with all requirements as may be necessary to protect the improvements, including barricades for protection of traffic.
   3. Keep minimum of one lane open to traffic at all times where utility crosses street or highway.

C. Protection of persons and property:
   1. Barricade open holes and depressions occurring as part of the Work, and post warning lights on property adjacent to or with public access.
   2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
   3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout and other hazards created by operations under this Section.

D. Dewatering:
   1. Remove all water, including rain water, encountered during trench and substructure work to an approved location by pumps, drains, and other approved methods.
   2. Keep trenches and site construction area free from water.

E. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.
F. Maintain access to adjacent areas at all times.

3.2 TRENCH EXCAVATION (Unclassified)

A. Remove all materials of whatever substance encountered.
B. Where trenching occurs in existing lawns, remove turf in sections and keep damp. Replace turf upon completion of the backfilling.
C. Open cut:
   1. Excavate for utilities by open cut.
   2. If conditions at the site prevent such open cut, and if approved by the City of Clemson,
tunneling may be used.

3. Short sections of a trench may be tunneled if, in the opinion of the City of Clemson, the conductor can be installed safely and backfill can be compacted properly into such tunnel.

4. Remove boulders and other interfering objects, and backfill voids left by such removals.

5. Remove wet or otherwise unstable soil incapable of properly supporting the utility, as determined by the City of Clemson, to depth required and backfill to proper grade with stone bedding material.

6. Excavating for appurtenances:
   a. Excavate for manholes and similar structures to a distance sufficient to leave at least 12" clear between outer surfaces and the embankment or shoring that may be used to hold and protect the banks.
   b. Over depth excavation beyond such appurtenances that has not been directed will be considered unauthorized. Fill with sand, gravel, or lean concrete as directed by the City of Clemson.

D. Trench to the minimum width necessary for proper installation of the utility, with sides as nearly vertical as possible. Accurately grade the bottom to provide uniform bearing for the utility.

E. Provide sheeting and shoring necessary for protection of the Work and for the safety of personnel.

F. Depressions:
   1. Dig bell holes and depressions for joints after the trench has been graded. Provide uniform bearing for the pipe on prepared bottom of the trench.
   2. Except where rock is encountered, do not excavate below the depth indicated or specified.
   3. Where rock is encountered, excavate rock to a minimum over depth of 6" below the trench depth indicated or specified, and to provide 6 inch clearance in any horizontal direction from all parts of the utility and appurtenances.

G. Special requirements relating to excavation for specific types of utilities shall comply with the following:
   1. Water distribution line:
      a. Provide depth of cover shown or minimum cover of 36 inches, whichever is greater.
      b. Where minimum cover only is required, carry excavations to depths necessary to properly grade the pipe on tangents and vertical curves as directed by the City of Clemson.
      c. Upper portion of trench may be sloped to any width which will not cause damage to adjoining structures, utilities, pavements or private property.
   3. Sewage force mains:
      a. Grade trenches to avoid high points, unless otherwise indicated.
      b. Provide minimum cover of 36 inches.
      c. Provide minimum clearance of 6 inches between pipe walls and trench wall or sheeting and bracing lines.
   4. Electrical conduit:
      a. Provide depth of cover shown or minimum cover of 36 inches, whichever is greater.
      b. Where minimum cover only is required, carry excavations to depths necessary to properly grade the conduit on tangents and vertical curves as directed by the City of Clemson.
3.3 BACKFILLING

A. General:
1. Backfill trenches and excavations immediately after the pipes are laid, unless other protection is directed or indicated.
2. Select and deposit backfill materials with special reference to the future safety of the pipes.
3. Reopen trenches which have been improperly backfilled, to a depth as required for proper compaction. Refill and compact as specified, or otherwise correct to the approval of the City of Clemson.
4. Surplus material shall be disposed of as directed by the City of Clemson.
5. Original surface shall be restored to the approval of the City of Clemson.

B. Lower portion of trench:
1. Deposit approved backfill and bedding material in layers of 6" maximum thickness, and compact with suitable tampers to the density of the adjacent soil until there is a cover of not less than 12" over utility lines.
2. Take special care in backfilling and bedding operations not to damage pipe and pipe coatings.

C. Remainder of trench:
1. Except for special materials for pavements, backfill the remainder of the trench with material free from stones larger than 6" or 1/2 the layered thickness, whichever is smaller, in any dimension.
2. Deposit backfill material in layers and compact each layer to specified minimum densities.

D. Adjacent to buildings: Mechanically compact backfill in 6 inch layers within ten feet of buildings.

E. Under roads, streets and other; paved areas:
1. Mechanically tamp in six inch layers using heavy duty pneumatic tampers or equal.
2. Tamp each layer to a density equivalent of not less than 98 percent of an ASTM D698 proctor Curve.
3. Provide additional compaction by leaving the backfilled trench open to traffic while maintaining the surface with crushed stone.
4. Refill any settlement with crushed stone and continue such maintenance until replacement of pavement is authorized by the City of Clemson.

F. Undeveloped areas:
1. Backfill in wooded, swampy or undeveloped areas shall be in 24-inch layers compacted to 85% minimum density.
2. Mound excavated material neatly over the ditch to provide for future settlements.

G. Lawns, roadway shoulders and other non-traffic areas:
1. Backfill in 12 - 18 inch layers and compact to 90% minimum density.
2. Immediately repair any settlement that occurs.

3.4 EXCAVATION BY JACKING-BORING

A. Install casings where indicated by jacking and boring.
B. Comply with Section 02780.

END OF SECTION
SECTION 02719.1

CATCH BASINS, DROP INLETS, STORM MANHOLES, AND YARD DRAINS

1. **Description**
   The work under this Item shall include the construction of all catch basins, drop inlets, storm drain manholes, yard or area drains, special structures, and also the alteration, reconstruction, or conversion of such existing structures – all in conformity with the lines, grades, dimensions, and details shown on the Approved Drawings, or as ordered by the Engineer and in accordance with the provisions of these Specifications for the various materials and work which constitute the complete structure.

2. **Materials**
   The materials to be used for the work under this item shall be those indicated on the Approved Drawings or ordered by the Engineer and shall conform SCDOT 2007 Standard Specifications Book Section 719.

3. **Construction Methods**
   The construction methods for the work under this item shall conform to the requirements of SCDOT 2007 Standard Specifications Book Section 719.4.6.

END OF SECTION
SECTION 02719.2

STORM DRAINAGE PIPE, CULVERTS, and ENDS

1. Description
The work under this item shall consist of furnishing and installing storm drainage pipes and relaying existing pipe of the type, size, and length called for on the Approved Drawings or as ordered, at the locations and the lines and grades designated on the Approved Drawings, or as directed by the Engineer, and in conformity with these Specifications.

This item shall also include furnishing and installing storm drainage pipes in accordance with the details shown on the Approved Drawings, or as ordered. Substructures and incidental construction shall comply with the requirements of the Specifications for the various items, which constitute the completed structure.

This item shall further include the furnishings and installing of pipe elbows, pipe couplers, specials of the type and size shown on the Approved Drawings, at the location, to the lines and grades designated, or as ordered by the Engineer and in conformance with these Specifications.

This Item shall also include the furnishing and installing of culvert ends conforming to the details shown on the Approved Drawings or to commercial details providing equal lengths and a similar shape as approved by the Engineer and having generally comparable hydraulic characteristics.

2. Materials
Pipes and culverts of the type indicated on the Approved Drawings, join sealant and materials, bedding materials, culvert ends, and elbows or specials, shall conform to the requirements of SCDOT 2007 Standard Specifications Book Section 714 and SC-M-714.

3. Construction Methods
Unless otherwise directed by the Engineer, all new or re-laid culverts including culverts composed of structural plates shall be installed in pipe bedding in accordance with the details as shown on the Approved Drawings and in conformance with these Specifications. Methods of excavation and backfilling shall be in conformance with SCDOT 2007 Stand Specifications Book Section 714 and SC-M-714 Section 3.3 through 3.3.14.

The placement of the pipe shall start at the downstream end and progress upstream unless otherwise approved by the Engineer. All pipes shall be carefully laid true to line and grades shown on the Approved Drawings, hubs upgrade and with the spigot ends fully entered into the adjacent hubs.

Pipes and pipe arches shall be carefully jointed and firmly clamped together by approved connecting bands, which shall be properly connected before any backfill is placed.
Where indicated on the Approved Drawings or directed by the Engineer, existing pipe culverts shall be taken up and re-laid or extended and renewed in the same manner as specified herein for new pipe culverts. Where shown on the Approved Drawings or directed by the Engineer, the Contractor shall connect the proposed drainage system with existing drainage structures or pipes.

4. **HDPE Pipe Details**
   
a) **SCOPE**
   This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 ST IB pipe (per ASTM F2648) for use in gravity-flow land drainage applications.

b) **Pipe Requirements**
   ADS N-12 ST IB pipe (per ASTM F2648) shall have a smooth interior and annular exterior corrugations.
   - 4-through 60-inch (100 to 1500 mm) shall meet ASTM F2648
   - Manning’s “n” value for use in design shall be 0.012

c) **Joint Performance**
   Pipe shall be joined using a bell & spigot joint meeting ASTM F2648. The joint shall be soil-tight and gaskets, when applicable, shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacture and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on the gasket and bell during assembly.

d) **Fittings**
   Fittings shall conform to ASTM F 2306. Bell and spigot connections shall utilize a spun-on or welded bell and valley or saddle gasket meeting the soil-tight joint performance requirements of ASTM F2306

e) **Material Properties**
   Material for pipe production shall be engineered compound of virgin and recycled high density polyethylene conforming with the minimum requirements of cell classification 424420C (ESCR Test Conditions)
   - For 4- through 10-inch (100 to 250 mm) diameter, and 435420C (ESCR Test Condition B)
   - For 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The design engineer shall verify compatibility with overall system including structural, hydraulic, material and installation requirements for a given application.

f) **Installation**
   Installation shall be in accordance with ASTEM D2321 and ADS recommended installation guidelines, with the exception that minimum cover in trafficked areas for 4-through 48-inch (100 to 1200 m diameters shall be one (1) foot (0.3 m) and for 60-inch (1500 mm) diameters, the minimum cover shall be two (2) feet (0.6 m) in single run applications. Backfill for minimum cover situations shall consist of Class 1 (compacted), or Class 2 (minimum 90% SPD) material. Maximum fill heights depend on embedment material and compaction level.
SECTION 02203

Borrow & Excavation

1. Description
When the amount of usable material excavated within the work contracted for is not sufficient to form the embankments, backfill trenches or other features of the work, additional materials shall be furnished by the Contractor from borrow pits obtained by him at his expense and located beyond the limit of the project. This material shall be known as borrow. Borrow shall include the furnishing, removing, and satisfactory placing of the additional material necessary to complete the embankments and other features of the work.

Hydraulically dredged and stockpiled material may be used for part, or all, borrow requirements in it meets the requirements under materials. Stockpiles shall be placed at locations arranged for and approved by the Contractor at his expense and will not be allowed within the project area except at locations and under conditions stipulated by the Engineer. All permits, easements, rights or other requirements related to dredging and stockpiling shall be the obligation and responsibility of the contractor.

2. Materials
Materials for this work shall conform to the following requirements:

Borrow
Borrow shall consist of inorganic granular soils and/or rock having not more than 15% by weight passing the No. 200 sieve. The maximum stone and the material shall be well-graded throughout the entire size range. Borrow shall be free from roots, leaves, and other organic materials. Rubbish, garbage, or trash in any quantity shall not constitute a part of the borrow. Borrow shall also be free of ice or frost and no aggregations of soil particles shall be frozen. The moisture content of the borrow shall be within ±3% of its optimum moisture content at the borrow source.

Unclassified Excavation
Unclassified Excavation consist of roadway and drainage excavation performed under this section regardless of the materials encountered or the manner in which they are remove. When included in a contract the bid quantity is only an estimate. It is the contractors responsibility to inspect the site and determine the actual amount of unclassified excavation needed to complete the project.

Rock Excavation
Rock excavation consist of igneous, metamorphic, and sedimentary rock that cannot be excavated without blasting or using rippers, hoe-rams, or pavement breakers and also includes all boulders or other detached stones having a volume of \( \frac{1}{2} \) cubic yard or more as determined by physical or visual measurements. If the Item Rock Excavation is not included in the Contract, this excavation is measured and paid for as Unclassified Excavation.

3. Construction Methods
Borrow will be permitted only to the extent necessary to complete the embankments, backfill trenches, and similar details and only after all usable material from the excavation has been placed.

The Contractor shall notify the Engineer at least 15 days prior to obtaining material from any
borrow pits so that an examination may be made of the fitness of the material. The limits of the proposed borrow shall be shown to the Engineer and the Contractor shall be required to clear the area of all unsuitable material.

If the contractor elects to obtain borrow from a commercial pit, it will be necessary for him to have a section of the pit set off for his use. Borrow shall be placed where directed and in accordance with the Specifications for the formations of embankments under the SCDOT 2007 Standard Specifications Book Section 713.4.8.

4. Method and Measurement and Basis of Payment
The Borrow will be paid if needed on a CY basis using the placed station grading. Station grading is the length of the roadway where the material has been placed/excavated by the width and depth of excavation/placement. The payment also shall include hauling of the material to the jobsite.

The Excavation will be paid if needed on a CY basis using the measurements or visual measurement basis depending on what site conditions dictate. The payment also shall include hauling and disposal of the material off of the jobsite.

END OF SECTION
SECTION 02305

Preparation of Subgrade/Fine Grade

1. Description
   The area, upon which pavements, shoulders, sidewalks, and other surface improvements will be placed, shall be known as the subgrade. This is the plane coincident with the bottom of the subbase, as shown on the Approved Drawings or as ordered by the Engineer. The work “Preparation of Subgrade/Fine Grade” shall be performed at this plane.

   After all grading has been substantially completed and all drains laid, the subgrade shall be brought to the lines, grades, and cross sections shown on the Approved Drawings.

2. Construction Methods
   All soft and yielding materials and other portions of the subgrade which will not compact readily when rolled, vibrated, or tamped shall be removed and replaced with suitable material. The surface shall be compacted uniformly by rolling with an approved power roller having a minimum compression of 325 pounds per inch of width of tread on the rear wheel, and weighing not less than 10 tons, or with an equivalent vibratory roller or compactor.

   When more than one compacting unit is used, the unit exerting the greatest compactive effort shall be used to make the initial compaction. Any portion of the subgrade, which is not accessible to a roller or other compacting unit, shall be compacted thoroughly with hand tampers or with approve mechanical vibrators.

   All hollows and depressions, which develop under rolling, shall be filled with granular material or gravel fill as approved by the Engineer. This process of shaping, rolling, and filling shall be repeated until no depressions develop. After compaction, the top surface of the subgrade shall be fine graded so that it shall not extend above nor more than $\frac{1}{2}$ inch below true grade and surface at any location. The subgrade shall not be muddy nor otherwise unsatisfactory when pavement/base/subbase is placed upon it. If the fine grade of the subgrade becomes rutted or displaced due to any cause whatsoever, the Contractor shall re-grade same at his own expense.

   The Contractor shall protect the subgrade from damage by exercising such precautions, as the Engineer may deem necessary. At all times, the subgrade surface shall be kept in such conditions that it will drain readily and correctly. The subgrade shall be checked and approved before any foundation or surfacing material is placed thereon.

   The dry density of the subgrade after compaction shall not be less than 95% of the maximum dry density as determined by AASHTO T 180 Method D.

END OF SECTION
PART 1 – GENERAL

1.1 All pavements will comply with the applicable sections of the South Carolina Department of Transportation’s Standard Specifications for Highway Construction, latest edition, as follows:

1.2 Hot Mixed Asphalt Pavements shall be constructed as specified in Section 401.

1.3 Hot Mixed Asphalt Concrete Surface Course shall be constructed as specified in Section 403. HMA Surface Course Type B

1.4 Asphalt Cost Indexing: No indexing.

END OF SECTION
1. **Description**
   The work under this item shall include all materials, equipment, labor for the placement and maintenance of temporary erosion control measures to prevent erosion and water pollution through the use of Best Management Practices including the use of Berms, silt basins, silt ditches, sediment dams, fiber roving, rolled erosion control products, silt fences, floating turbidity barriers, brush barriers, sediment tubes, inlet filters, bonded fiber matrix, flexible growth matrix, temporary flexible pipe slope drains, temporary seeding, and stabilized construction entrances.

2. **Materials**
   All materials shall be installed to the specifications on the Approved plans and in the SCDHEC BMP Handbook. Any erosion control material must receive approval from the Engineer before being install on the site. All items shall be regularly inspected and maintained as needed during the life of the project. All erosion control items shall be installed to ensure that sediment does not escape the project boundaries.

3. **Construction Methods**
   All erosion control items shall be maintained to the SCDHEC BMP Handbook Standards.

4. **Methods and Measurement and basis of Payment**
   The work under this item will be paid on a LUMP SUM pay item. The LUMP SUM will be paid as a percentage of the project completion and satisfactory installation and maintenance of the erosion control items.

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**End of Section**
1. **Description**
   The work item shall include all the installation and maintenance of all work zone traffic control conducted within the highway right-of-way.

2. **Materials**
   All materials shall comply with the SCDOT 2007 Standard Specifications Book Division 600, and SCDOT Standard Drawings.

3. **Construction Methods**
   The Contractor shall provide a Traffic Control Plan for the maintenance and control of traffic during work within the highway right-of-way. This includes work by the contractor, subcontractor, sub-subcontractor, supplier, or anyone working within the highway right-of-way.

4. **Methods and Measurements and basis of Payment**
   The work under this item will be paid on a LUMP SUM pay item. The LUMP SUM will be paid as a percentage of the project completion and satisfactory installation and maintenance of the traffic control items.

End of Section