

CITY OF GEORGETOWN

SOUTH CAROLINA

**PROJECT MANUAL**

**FOR**

**CONSTITUTION PARK**

**BULKHEAD REPLACEMENT**

PROJECT #1207

April 11, 2018

| REV | DATE | DESCRIPTION | BY | CHK | APR |
|-----|------|-------------|----|-----|-----|
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CITY OF GEORGETOWN

1134 N Fraser Street

GEORGETOWN SC 29440

(843) 545-4000

COVER PAGE

00001

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**(END OF SECTION)**

**SECTION 00010**  
**ENUMERATION OF THE DOCUMENTS**

The drawings, 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 Section 00005 - Table of Contents.

The order of precedence when conflicts in the documents occur is as follows:

1. Permits from other Agencies as may be required by law
2. Change Orders and/or supplemental agreements according to the latest date
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The figured dimensions shown on the Drawings and in the Specifications may not, in every case agree with the scale dimension. Figured dimensions take precedence over scaled dimensions and finer scaled drawings take precedence over coarser scaled drawings, i.e. one inch equals twenty feet drawings takes precedence over one inch equals fifty feet drawings.

**(END OF SECTION)**

**SECTION 00015  
REFERENCES**

The following reference shall be used hereinafter:

|  |  |
|--|--|
| <u>Owner:</u><br>City of Georgetown, SC<br>PO Box 939<br>Georgetown, SC 29442                      | The City of Georgetown hereinafter will be referred to as the "Owner" and/or the "City". |
| <u>Interim City Administrator:</u><br>Mr. Carey Smith<br>PO Box 939<br>Georgetown, SC 29442        | Mr. Carey Smith hereinafter will be referred to as the "City Administrator".             |
| <u>Risk Manager:</u><br>Ms. Suzanne Anderson<br>PO Box 939<br>Georgetown, SC 29442                 | Ms. Suzanne Anderson hereinafter will be referred to as the "Risk Manager".              |
| <u>Purchasing Agent</u><br>Ms. Daniella Howard<br>PO Box 939<br>Georgetown, SC 29442               | Ms. Daniella Howard hereinafter will be referred to as the "Purchasing Agent".           |
| <u>Project Manager:</u><br>Mr. Orlando Arteaga<br>PO Box 939<br>Georgetown, SC 29442               | Mr. Orlando Arteaga, P.E. hereinafter will be referred to as the "Project Manager"       |
| <u>Designer of Record</u><br>McSweeney Engineers, LLC<br>123 Cannon Street<br>Charleston, SC 29403 | Mr. William D. Barna, P.E. hereinafter will be referred to as the "Engineer"             |

**(END OF SECTION)**

**SECTION 00020  
ADVERTISEMENT FOR  
BIDS**

PROJECT NAME: Constitution Park Bulkhead Replacement  
PROJECT #: 1207  
DATE OF ISSUE: Wednesday, April 11, 2018  
DUE DATE: **No later than 2:00 pm (EST), Tuesday, May 8, 2018**

The City of Georgetown, (hereinafter called the "Owner and/or the "City") requests sealed bids from qualified general contractors for the above referenced project. Contractors must be experienced in commercial-type marine construction. Local vendor preference shall not apply.

Bid documents including, but not limited to, forms, specifications and milestone events, may be downloaded free of charge from the City website: [www.cogsc.com](http://www.cogsc.com). Select "Bids" from the bottom of the home page. You may also send an email request to [purchasing@cogsc.com](mailto:purchasing@cogsc.com) for a direct link.

**NOTICE TO BIDDERS: A mandatory Pre-Bid Meeting will be held at 10:00 am Wednesday, April 25, 2018**, at the site location, Constitution Park, intersection of Front Street and Orange Street, Georgetown, SC. Therefore, bids will be considered only from those bidders who are represented at this pre-bid meeting. Attendance at the meeting will be evidenced by the representative's signature on the attendance roster.

Last day for questions is Friday, April 27, 2018 at 2:00 pm. Direct questions to engineering consultant Mr. Bill Barna, PE, [Bill@mcsweeneyengineers.com](mailto:Bill@mcsweeneyengineers.com). Make sure to reference the project name in the subject line, **Constitution Park Bulkhead Replacement Project #1207**.

Bids will be publicly opened at 2:00 pm (EST), Tuesday, May 8, 2018, and read aloud at the Water Utilities and Engineering Dept. Building, 2377 Anthuan Maybank Drive, Georgetown, SC 29440.

Each bidder shall fully acquaint himself with conditions relating to the scope and restrictions attending the execution of the work under the conditions of this bid. The failure or omission of a bidder to acquaint himself with existing conditions shall in no way relieve him of any obligation with respect to this bid or to the contract. The City shall not be legally bound by any amendment or interpretation that is not in writing.

Bid documents will be modified only by written addenda. It is the responsibility of the Bidder to obtain information regarding projects directly from the City's website, [www.cogsc.com](http://www.cogsc.com), under "Bids". Bids received after the due date and specified time will not be considered for any reason and will remain unopened. City will not accept bids by fax or electronic mail.

Bids are to be mailed or hand delivered only to the address listed below:

Physical Address:  
City of Georgetown  
Attn: Purchasing - Bid Proposal  
Constitution Park Bulkhead Replacement  
Project #1207  
2377 Anthuan Maybank Drive  
Georgetown, SC 29440

Each bid must be accompanied by a certified check of the Bidder, or by Bid Bond made payable to the City of Georgetown, for an amount equal to not less than five percent (5%) of the total bid as a guarantee that, if the bid is accepted, the required Agreement will be executed and that a one hundred and ten percent (110%) Performance Bond and a one hundred percent (100%) Payment Bond will be furnished.

Any prospective bidder, offeror, contractor or subcontractor who believes they are aggrieved in connection with the solicitation of this contract may protest to the Owner in accordance with Section 11-35-4210 of the South Carolina Code of Laws, within 15 days of the date of issuance of the Notice of Intent to Award.

All bidders shall be legally qualified under the provisions of the South Carolina Contractor's Licensing Law, Chapter 11, Sections 40-11-05 through 40-11-440 of the South Carolina Code of Laws as amended. Any bid submitted by a bidder who does not meet these requirements shall be rejected.

The City reserves the right to waive any informality in bidding and to reject any or all bids if it is in City's best interest to do so. Unless all bids are rejected, award will be to the low responsive, responsible Bidder.

The City of Georgetown is an equal opportunity/ affirmative action employer.

No Bidder may withdraw the bid within sixty (60) days after the actual date of the opening and thereof.

These bid documents will be modified only by written addenda.

**(END OF SECTION)**



## 00100 INFORMATION FOR BIDDERS

### 1. PROJECT DETAIL

Generally and without force or effect on the Contract requirements, the Work consists of, but is not limited to, the removal of approximately 70 LF of existing timber bulkhead and replacement with approximately 77 LF of new timber bulkhead. The new bulkhead will be positioned in the same general location as the existing bulkhead. The new bulkhead must accommodate the penetration of one 12 inch RCP and one 36 in RCP.

### 2. RECEIPT AND OPENING OF BIDS

1. The City of Georgetown (hereinafter called the "Owner") invites bids on the form (s) attached hereto, all blanks of which must be appropriately filled in. Sealed bids, one (1) original and two (2) copies, must be received by the City's Purchasing Department no later than the aforementioned due date and time. Bids will be publicly opened at the Water Department located at 2377 Anthuan Maybank Drive, and read aloud at that time. No bid proposal will be accepted after the due date and time specified above. Faxed or emailed bid proposals will not be accepted for any reason. The City reserves the right to waive any technicalities or informalities and to accept or reject any and/or all submissions as deemed by its sole judgement to be in its best interest. The City also reserves the right to terminate the selection process without notice, to waive any irregularities in any submittal, and to request additional information from any of the firms submitting a bid proposal.
2. All bids should be clearly marked on the outside, "**Constitution Park Bulkhead Replacement, Project # 1207**".
3. It is the sole responsibility of the proposer to have their proposals delivered to the City of Georgetown before the closing hour and dated. The City assumes no responsibility for delivery of proposals that are mailed. Late, faxed, or emailed proposals will not be accepted nor considered for any reason and will remain unopened. The official clock shall be that of the City's Purchasing Agent, or designee. The City reserves the right to reject any or all bids and to waive any informalities and technicalities in the bid process.

The envelopes containing the bids and bid bonds must be sealed and addressed to the physical address shown below:

Physical Address:

City of Georgetown  
Attn: Purchasing - Bid Proposal  
Constitution Park Bulkhead Replacement  
Project #1207  
2377 Anthuan Maybank Drive  
Georgetown, SC 29440

The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within sixty days after the actual date of the opening thereof.

### 3. PREPARATION OF BID

Each bid must be submitted on the prescribed form. All blank spaces for bid prices must be filled in with ink or typewritten.

Bids which are incomplete, unbalanced, conditional or obscure, or which contain additions not called for, erasures, alterations, or irregularities of any kind, or which do not comply with the Information for Bidders, may be rejected at the option of the Owner.

The correct total amount bid for the completed work is defined as the correct sum total of the amounts bid for the individual items in the proposal.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the Bidder, Bidder's address, Contractor's license number, Bidder's license number, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified above.

### 4. SUBCONTRACTS

The bidder is specifically advised that any person, firm, or other party to whom it is proposed to award a subcontract under this contract must be acceptable to the Owner. A list of subcontractors must be included with the bid submittal on the form provided.

### 5. TELEGRAPHIC MODIFICATION

Any bidder may modify its bid by telegraphic or facsimile communication at any time prior to the scheduled time for receipt of bids, provided such telegraphic or facsimile communication is received by the Owner prior to closing time, and provided further the Owner is satisfied that a written confirmation of the telegraphic or facsimile modification over the signature of the bidder was mailed prior to the closing time.

The telegraphic or facsimile communication should not reveal the bid price, but should provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened. If written confirmation is not received within two (2) days from the closing time, no consideration will be given to the telegraphic or facsimile modification.

6. QUALIFICATION OF BIDDER

The Owner may make such investigations as is deemed necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request.

The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.

Conditional bids will not be acceptable.

7. BID SECURITY

Each bid must be accompanied by cash, certified check of the bidder, or a bid bond prepared on the form of bid bond attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the Owner, in the amount of five percent (5%) of the bid. Cash or checks will be returned to all except the three (3) lowest bidders within three (3) days after the opening of bids, and the remaining cash or checks will be returned promptly after the Owner and the accepted bidder have executed the contract, or, if no award has been made within sixty (60) days after the date of the opening of the bids, upon demand of the bidder at any time thereafter so long as bidder has not been notified of the acceptance of its bid.

8. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

The successful bidder, upon failure or refusal to execute and deliver the contract and bonds required within ten (10) days after they have received notice of the acceptance of their bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with the bid.

9. TIME OF COMPLETION AND LIQUIDATED DAMAGES

Bidder must agree to commence work on or before a date to be specified in a written "Notice to Proceed" of the Owner and to fully complete the project within the number of consecutive calendar days thereafter as indicated on the Bid Form. Bidder must agree also to pay as liquidated damages the sum indicated on the Bid Form for each consecutive calendar day thereafter as hereinafter provided in General Conditions.

10. CONDITIONS OF WORK

Each bidder must inform himself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of the obligation to furnish all material and labor necessary to carry out the provisions of the contract.

Insofar as possible, the Contractor in carrying out the work must employ such methods and means as will not cause any interruption of, or interference with, the work of any other contractor.

11. ADDENDA AND INTERPRETATIONS

No interpretation of the meaning of the plans, specifications, or other pre-bid documents will be made to any bidder orally. Each request for such interpretation should be in writing and addressed to the Project Manager. To be given consideration, the request must be received at least ten (10) days prior to the date fixed for the opening of bids.

Any and all such interpretations and any supplemental instructions will be in the form of written addenda which, if issued, will be on the City of Georgetown website <http://www.cogsc.com> no later than three (3) days prior to the date fixed for the opening of bids. It shall be the bidder's responsibility to check for addenda before issuing its bid. Failure of any bidder to receive any addendum shall not relieve the bidder from any obligation under its bid as submitted. All addenda so issued shall become part of the contract documents.

12. PAYMENT AND PERFORMANCE BONDS

Simultaneously with bidder's delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as secured for faithful performance of this contract and for the payment of all persons performing labor on the project under this contract, as specified in General Conditions included herein. The surety on such bond or bonds shall be a duly authorized surety company, bond shall be countersigned by an agent residing in South Carolina, and the said surety shall be satisfactory to the Owner. The Performance Bond shall be in the amount of one-hundred and ten percent (110%) of the bid and the Payment Bond shall be in the amount of one-hundred percent (100%) of the bid.

13. POWER OF ATTORNEY

Attorneys-in-fact who sign bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

14. NOTICE OF SPECIAL CONDITIONS

Attention is particularly called to those parts of the contract documents and specifications which deal with the following:

A. Insurance requirements

15. LAWS AND REGULATIONS

The Bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

16. METHOD OF AWARD - LOWEST QUALIFIED BIDDER

If at the time this contract is to be awarded, the lowest base bid or alternate bid submitted by a responsible bidder does not exceed the amount of funds then estimated by the Owner as available to finance the contract, the contract will be awarded on the base bid or alternate bid. If such bid exceeds such amount, the Owner may reject all bids or may award the contract on the base bid combined with such deductible alternates applied in numerical order in which they are listed in the Form of Bid, as produces a net amount which is within the available funds.

The Owner will decide which the lowest qualified bidder is, and in determining such bidder, the following elements will be considered for each bidder:

- A. Maintains a permanent place of business.
- B. Has successfully completed other work with the City
- C. Has adequate equipment and personnel to perform the work properly and expeditiously.
- D. Has suitable financial status to meet obligations incident to the work.
- E. Has appropriate technical experience with a minimum of five years in the area of commercial type marine construction.

17. RIGHT TO INCREASE OR DECREASE THE AMOUNT OF WORK

The work comprises approximately the tasks shown in the bid form which will be used as a basis for comparison of Bids and not for final estimate. The Owner does not, by expression or by implication, agree that the actual amount of work shall correspond with the tasks listed. The Owner reserves the right to increase or decrease the amount of work under the Contract of the work contemplated, by the task prices quoted in the Bid.

18. OBLIGATION OF BIDDER

At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and be thoroughly familiar with the plans and contract documents, including all addenda. If a site visit is required, contact the Project Manager to schedule a date and time. The failure or omission of any bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation in respect to its bid.

**SECTION 00110**  
**CONTRACTOR'S AND SUBCONTRACTOR'S**  
**INSURANCE REQUIREMENTS**

1. 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.
2. Unless otherwise specified in this Contract, the Contractor shall, at its sole expense, maintain in effect at all times, during the performance of work, insurance coverage with limits not less than those set forth below with insurers and under forms of policies satisfactory to Owner.
3. The Contractor shall deliver Certificates of Insurance to the Project Manager no later than ten (10) days after award of the Contract but in any event, prior to execution of the Contract by the Owner and prior to commencing work on the site as evidence that policies providing such coverage and limits of insurance are in full force and effect.
  - A. Certificates shall provide not less than thirty (30) days advance notice which will be given in writing to the Owner prior to cancellation, termination, or material alteration of said policies of insurance.
  - B. Certificates shall identify on their faces the **CONSTITUTION PARK BULKHEAD REPLACEMENT PROJECT #1207**
4. Additional Insured: The Commercial General Liability, Excess Liability (Umbrella) and Auto Liability insurance policies shall be endorsed to include the Owner as additional insured.
5. The Owner is not maintaining any insurance on behalf of the Contractor covering against loss or damage to the work or to any other property of the Contractor unless otherwise specifically stated herein and as may be described by appendix hereto. In the event the Contractor maintains insurance against physical loss or damage to the Contractor's construction equipment and tools, such insurance shall include an insurer's waiver of rights of subrogation in favor of Owner.
6. The Contractor shall indemnify the Owner and the Engineer as stated in Part 47 of Section 00700.
7. Insurance Requirements:
  - A. Commercial General Liability Insurance: The Contractor shall take out and maintain during the life of the Contract such commercial general

liability insurance as shall protect him from claims for damage for bodily 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 not be less than the following:

|  |                |
|--|----------------|
| General Aggregate                        | \$2,000,000.00 |
| Products - Complete/Operations Aggregate | \$2,000,000.00 |
| Personal and Advertising Injury          | \$1,000,000.00 |
| Each Occurrence                          | \$1,000,000.00 |
| Fire Damage (any one fire)               | \$ 50,000.00   |
| Medical Expenses (any one person)        | \$ 50,000.00   |

1. The General Aggregate listed above shall be for this project only.
2. Special Hazards: The Contractor's and his Subcontractors General Liability Insurance shall provide adequate protection against use of explosives, collapse, and underground hazards. Each detonation of blasting shall be considered a single occurrence.

B. Comprehensive Automobile Liability Insurance:

1. Includes coverage for all owned, hired, and non-owned automobiles
2. The combined single limit of liability shall not be less than the following:

|                          |                |
|--------------------------|----------------|
| Any One Accident or Loss | \$1,000,000.00 |
|--------------------------|----------------|

C. Excess Liability (Umbrella) Insurance:

1. Contractor shall carry and maintain Combined Excess Liability (Umbrella) insurance for a limit not less than the following:

|                 |                |
|-----------------|----------------|
| Each Occurrence | \$2,000,000.00 |
|-----------------|----------------|

|           |                |
|-----------|----------------|
| Aggregate | \$2,000,000.00 |
|-----------|----------------|

D. Worker's Compensation: The insurance required by this section shall be written for not less than the following or greater if required by law:

1. Statutory benefits as provided by South Carolina Law
2. Employers' Liability:

|                         |                |
|-------------------------|----------------|
| Each Accident           | \$1,000,000.00 |
| Disease - Policy Limit  | \$1,000,000.00 |
| Disease - Each Employee | \$1,000,000.00 |

E. Builders Risk Insurance: Not applicable for this project -The Contractor shall purchase and maintain an "all risk" or special perils form builder's risk policy issued in the name of the Contractor, Owner and Subcontractors for the full contract value of the insurable portions of the work. This policy shall contain a provision that in the event of payment of any loss or damage, the insurer will have no rights of recovery against any of the parties named as insureds or additional insureds.

F. Flood Insurance: Not applicable for this project - The Contractor is required to carry flood insurance for projects located in designated flood hazard area in which Federal Flood Insurance is available.

G. Owner's Protective Liability Insurance: Not applicable for this project - The Contractor shall purchase and maintain an Owner's Protective Liability policy issued in the name of the Owners with a combined single limit of liability of not less than the following:

|                 |                |
|-----------------|----------------|
| Each Occurrence | \$2,000,000.00 |
| Aggregate       | \$2,000,000.00 |

(END OF SECTION)



**SECTION 00311  
BID FORM**

CONSTITUTION PARK BULKHEAD REPLACEMENT PROJECT #1207.  
For the City of Georgetown, SC

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

PROPOSAL OF \_\_\_\_\_

(hereinafter called "Bidder"), a \_\_\_\_\_(State)

corporation/partnership/individual (Strike out inapplicable terms) doing business as a

\_\_\_\_\_

TO: City of Georgetown, SC

TO: Whom it may concern:

The Bidder, in compliance with your invitation for bids for the **CONSTITUTION PARK BULKHEAD REPLACEMENT, PROJECT #1207** having examined the drawings and specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project, including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the Contract Documents, within the time set forth therein, for the Lump Sum of:

\_\_\_\_\_ Dollars \$ (\_\_\_\_\_)

The lump sum price indicated above shall include all labor, materials, overhead, profit, insurance, taxes, fees, etc., to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

**The lump sum price indicated above shall also include the amounts indicted as Allowances, if any, and as described in the Division 1 Section "Allowances".** Should actual cost vary from the Allowance listed, The Contract Sum shall be adjusted by Change Order.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in written "Notice to Proceed" of the Owner and to fully complete the project within **Ninety (90)** consecutive calendar days after specified date on Notice to Proceed.

Bidder further agrees to pay as liquidated damages the sum of \$500.00 for each consecutive calendar day thereafter as hereinafter provided in Paragraph 19 of the General Conditions 00700.1.

The specifications and addenda are complementary of each other. What is called for by one shall be as binding as if called for by all. If a conflict between any of the above is discovered by the contractor, the problem shall be referred to the Owner as soon as possible for resolution by the Owner. Should a conflict occur which is not resolved before bid time and/or is necessary to comply with mandatory requirements (i.e., codes, ordinances, etc.), it shall be the contractor's responsibility to price and bid the more expensive method.

Bidder acknowledges receipt of the following addendum:

No.:\_\_Dated: \_\_\_\_\_

No.:\_\_Dated: \_\_\_\_\_

No.:\_\_Dated: \_\_\_\_\_

No.:\_\_Dated: \_\_\_\_\_

No.:\_\_Dated: \_\_\_\_\_

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informality in the bidding.

The Bidder agrees that this Bid shall be good and may not be withdrawn for a period of sixty (60) Calendar days after the scheduled closed time for receiving bids.

**SCHEDULE OF VALUES**

| <b>Item no.</b> | <b>Item</b>  | <b>Quantity</b> | <b>Unit</b> | <b>COST (\$)</b> |
|-----------------|--|-----------------|-------------|------------------|
| 1               | General Conditions (Mobilization, Supervision, Field Engineering, Bonds and Insurance, Vibration Monitoring and Inspections, Protection of Historical Artifacts and Public at the Park and Harborwalk, As-Builts, De-mobilization, etc.) | 1               | LS          |                  |
| 2               | Demolition   | 1               | LS          |                  |
| 3               | Site Work  | 1               | LS          |                  |
| 4               | Timber Bulkhead and Wales  | 77              | LF          |                  |
| 5               | Timber Piles   | 17              | EA          |                  |
| 6               | Deadman Tieback System<br>(inc. piles, anchors, tie rods, and hardware)  | 13              | EA          |                  |
| 7               | Gravel   | 4               | CY          |                  |
| 8               | Filter Fabric  | 110             | SY          |                  |
| 9               | Stormwater Pipe Material & Installation including check valves.  | 1               | LS          |                  |
| 10              | Concrete Sidewalk  | 1               | LS          |                  |
|                 | <b>Total Bid</b>   |                 |             |                  |

**LUMP SUM BID:** \$ \_\_\_\_\_

The above Task Prices shall include all labor, materials, equipment, overhead, profit, insurance, bonding, taxes, etc., to cover the finished work called for.

Prime Contractor Responsibilities - The contractor will be required to assume sole responsibility for the complete effort as required by this RFB. The City will consider the contractor to be the sole point of contact with regard to all project matters.

**SUBCONTRACTOR LIST**

Subcontracting - If any part of the work covered is subcontracted, the contractor shall identify the subcontracting organization at the time of the offer. All subcontractors must be approved by the City.

Sub-contractors (with contact information) to be utilized in project:

| SUBCONTRACTOR | COMPANY NAME/ADDRESS | CONTACT NAME/ PHONE |
|---------------|----------------------|---------------------|
|               |                      |                     |
|               |                      |                     |
|               |                      |                     |
|               |                      |                     |
|               |                      |                     |

The undersigned declares that his firm is (delete those not applicable): A corporation organized and existing under the laws of the State of \_\_\_\_\_

A partnership consisting of:

The undersigned declares that the person or persons signing this proposal is fully authorized to sign the proposal on behalf of the firm listed and to fully bind the firm listed to all the conditions and provisions thereof.

It is agreed that no person or persons or company other than the firm listed below or as otherwise indicated hereinafter has any interest whatsoever in this proposal or the contract that may be entered into as a result thereof, and that in all respects the proposal is legal and fair, submitted in good faith, without collusion or fraud.

Respectfully Submitted:

\_\_\_\_\_  
Contractor

(SEAL – if bid is by a Corporation)

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

\_\_\_\_\_  
(Type/Print Name)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Street Address)

\_\_\_\_\_  
(City, State, Zip Code)

S.C. General Contractor's License No. \_\_\_\_\_

FID No. \_\_\_\_\_ and/or SSN \_\_\_\_\_

**(END OF SECTION)**

**00350 BID BOND**

**KNOW ALL MEN BY THESE PRESENT:**

That we, the undersigned \_\_\_\_\_, as Principal, and \_\_\_\_\_, as Surety, are hereby held and firmly bound unto the **City of Georgetown, South Carolina**, as Owner, in the penal sum of \_\_\_\_\_ Dollars \_\_\_\_\_ Cents (\$ \_\_\_\_\_), 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 \_\_\_\_\_, 2017.

The condition of the above obligation is such that:

**WHEREAS**, the Principal has submitted to \_\_\_\_\_ a certain Bid, attached hereby and by reference made a part hereof, to enter into a contract in writing for the \_\_\_\_\_.

**NOW, THEREFORE,**

- (A) If said Bid shall be rejected, or
- (B) If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish a Bond for faithful performance of said contract, and for the payment of all persons performing labor furnishing materials in connection therewith, 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 an 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 Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

\_\_\_\_\_  
Principal

(Corporate Seal)

By: \_\_\_\_\_ (L.S)

\_\_\_\_\_  
Surety

(Corporate Seal)

By: \_\_\_\_\_ (L.S)

Important: Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

Note: Bond must be countersigned by a South Carolina resident agent.

(END OF SECTION)

**SECTION 00500  
CONTRACT**

**STATE OF SOUTH CAROLINA**

**COUNTY OF GEORGETOWN**

**THIS AGREEMENT**, entered into this \_\_\_\_ day of \_\_\_\_\_, 2017 and effective immediately by and between \_\_\_\_\_, doing business as a (individual/partnership/corporation), with its principal office in the City of \_\_\_\_\_ County \_\_\_\_\_ (State) \_\_\_\_\_, (hereinafter called the "Contractor") and the City of Georgetown, a duly organized and validly existing political body of the State of South Carolina (hereinafter called "City"),

**WITNESSETH THAT WHEREAS**, The City desires to engage the services of a professional contractor for the purpose of \_\_\_\_\_, hereinafter referred to as "Project"; and,

**WHEREAS**, The City has solicited bids for the same by that certain Request for Bids for Construction Services, hereinafter referred to as "RFB", a copy of which is attached hereto for all purposes as **EXHIBIT "1"**; and,

**WHEREAS**, The Contractor has represented to City that it has the qualifications, experience, expertise, training, and personnel to timely perform the Project for City; and,

**WHEREAS**, The Contractor has expressed its desire to do so by their bid, dated \_\_\_\_\_, 20\_\_\_\_, hereinafter referred to as "Bid", a copy of which is attached hereto for all purposes as **EXHIBIT "2"**; and,

**WHEREAS**, the parties desire to enter in an agreement for the Contractor to perform the Project for City per all the terms and conditions more particularly set out herein below;

**NOW, THEREFORE**, for and in consideration of the foregoing, and of other good and valuable consideration, the adequacy of which is hereby acknowledged, the parties hereto agree as follows:

(1) **SCOPE OF SERVICES:**

- a. Contractor hereby agrees to perform the tasks and services as outlined in the Project Manual, incorporated into this Agreement as **ATTACHMENT "A"** and hereinafter referred to as "Work";



- b. Contractor further agrees to commence and complete any and all extra work in connection therewith, under the terms as stated in the General and Special Conditions of the Contract; and at his/hers (it's or their) own proper cost and expense to furnish all the materials, supplies, machinery, equipment, tools, superintendents, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal and the General Conditions, Supplemental General Conditions, and Special Provisions of the Contract, the plans, including all maps, plats, blueprints, and other drawings and printed or written explanatory matters thereof, the specifications and contract documents therefore as prepared by the Design Professional, and as enumerated in Paragraph 1 of the General Conditions, all of which are made a part hereof and collectively evidence and constitute the Contract.
- c. City may, from time to time require changes in the Work of the Contractor to be performed hereunder. Such changes, which are mutually agreed upon by and between City and the Contractor, shall be incorporated by written amendment to this Agreement.

(2) **COMPENSATION:**

- a. City agrees to pay Contractor a sum not to exceed \_\_\_\_\_dollars (\$ \_\_\_\_\_) in accordance with the Schedule of Values, incorporated into this Agreement as **ATTACHMENT "B"** and hereinafter referred to as "Compensation";
- b. In the event funds are not appropriated or become non-appropriated for an included fiscal year by City, it is agreed by the parties that this Agreement will become null and void and the City's obligations cannot extend beyond the date of non-appropriation.

(3) **PERIOD OF SERVICES:**

- a. the Work to be performed hereunder by the Contractor shall begin upon the date outlined to the City's Notice to Proceed letter to the Contractor, incorporated into this Agreement as **ATTACHMENT "C"** and hereinafter referred to as "NTP"
- b. The Work shall be completed in accordance with the Schedule, incorporated into this Agreement as **ATTACHMENT "D"** and hereinafter referred to as "Schedule".
- c. Modifications to the Schedule may be required Such modifications, which are mutually agreed upon by and between City and the Contractor shall be incorporated by written amendment to this Agreement

(4) **FORCE MAJEURE:**

- a. Force majeure includes acts of God, acts of other branches of government in either their sovereign or contractual capacities, or any similar cause beyond the reasonable control of the parties.

- b. Any delays in or failure of performance by either party that are caused by a Force Majeure shall not constitute breach of this Agreement.
- c. In the event that any event of force majeure, as herein defined occurs, both parties shall be entitled to a reasonable extension of time for performance of its WORK.

(5) **NOTICES:**

- a. Any notices, bills, invoices, or reports required by this Agreement shall be sufficient if sent by the parties in the United States mail, postage paid, to the addresses of the Project Manager (See Section 00015)

(6) **RECORDS AND INSPECTIONS:**

- a. Contractor shall maintain full and accurate records with respect to all matters covered under this Agreement for a period of one year after the completion of the project.
- b. City shall have free access at all proper times to such records, and the right to examine and audit the same and to make transcripts there from, and to inspect all program data, documents, proceedings, and activities.

(7) **COMPLETENESS OF AGREEMENT:**

- a. This Agreement and any additional or supplementary document or documents incorporated herein by specific reference contain all the terms and conditions agreed upon by the parties hereto, and no other agreements, oral or otherwise, regarding the subject matter of this Agreement or any part thereof shall have any validity or bind any of the parties hereto
- b. This Agreement is entered into with full understanding and awareness of such requirement.
- c. City shall be allowed to rely upon the representations of Contractor as set out in the Proposal.
- d. With the exception of the foregoing, this Agreement constitutes the entire agreement between the parties hereto and may not be modified or amended except in writing signed by both parties hereto.

(8) **CONFLICTS:**

- a. In the case of any conflict between the terms and conditions of this Agreement and the terms of any other agreement between the parties hereto, the terms of this Agreement shall control
- b. If there is a conflict between the City's Request for Bids and this Agreement, then this Agreement shall control.
- c. If there is a conflict between the City's Request for Bids and the Contractor's Proposal, the City's Request for Bids shall control.

- d. Both parties agree that all conflicts arising under this Agreement that cannot be settled between the parties shall be resolved in the Georgetown County Court of Common Pleas (Non-Jury)

(9) **SEVERABILITY:**

- a. If any part or provision of this Agreement is held invalid or unenforceable under applicable law, such invalidity or unenforceability shall not in any way affect the validity or enforceability of the remaining parts and provisions of this Agreement.

(10) **NONWAIVER:**

- a. The waiver by City or Contractor of a breach of this Agreement shall not operate as a waiver of any subsequent breach, and no delay in acting with regard to any breach of this Agreement shall be construed to be a waiver of the breach.
- b. In no event shall the making of any payment by City to the Contractor constitute or be construed as a waiver by City of any breach of covenant, or any default which may exist on the part of the Contractor.
- c. The making of any such payment by City while any such breach or default shall exist in no way impairs or prejudices any right or remedy available to City in respect to such breach or default.

(11) **GOVERNING LAW:**

- a. This Agreement and the rights, obligations and remedies of the parties hereto, shall in all respects be governed by and construed in accordance with the laws of the State of South Carolina.

(12) **RESPONSIBILITY:**

- a. Each party shall be responsible for its own acts as provided under the law of South Carolina and will be responsible for all damages, costs, fees and expenses which arise out of the performance of this Agreement which are due to that party's own negligence, tortious acts and other unlawful conduct and the negligence, tortious action and other unlawful conduct of its respective agents, officers and employees.

(13) **FREEDOM OF INFORMATION ACT (FOIA)**

- a. The parties acknowledge that all documents are subject to release under the South Carolina Freedom of Information Act (FOIA) and will be released to the public unless exempt from disclosure under the FOIA.
- b. If the Contractor contends a document is exempt from disclosure under the FOIA, it shall mark any such documents plainly, and seek protection from disclosure by filing an appropriate action in Circuit Court and shall bear the cost of the action and any monetary or attorney's fees awarded to the person or entity making the FOIA request.

c. If the Contractor objects to release and litigation is commenced against the City under the FOIA, the City agrees to promptly notify the Contractor, who shall move in intervene as a party. The Contractor agrees to hold the City harmless from and indemnify for all costs (including plaintiff's attorney's fees if awarded by the Court) incurred by the City in defending the lawsuit and the funds necessary to satisfy any judgment and all costs on appeal, if any.

(14) **THIRD PARTY OBLIGATIONS:**

- a. Neither party shall be obligated or liable hereunder to any party other than the second party to this Agreement.

(15) **RESTRICTIONS ON LOBBYING:**

- a. Contractor shall comply with all requirements of Section 1352, Title 31 of the U.S. Code, which prohibits all recipients of federal funds from using appropriated monies for lobbying activities.

(16) **SUCCESSORS AND ASSIGNS:**

- a. The rights and obligations herein shall inure to and be binding upon the successors and assigns of the parties hereto.

**IN WITNESS WHEREOF**, City and the Contractor have executed this agreement as of the date first written above.

CITY OF GEORGETOWN, SOUTH CAROLINA  
(OWNER)

\_\_\_\_\_  
(SIGNATURE)

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

(SEAL)

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

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

\_\_\_\_\_  
(SIGNATURE)

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

(CORPORATE SEAL)

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

Attest:

\_\_\_\_\_  
It's Secretary

\_\_\_\_\_  
Witness

**(END OF SECTION)**

CONTRACT  
00500-5

**SECTION 00501.1  
PERFORMANCE BOND**

**KNOW ALL MEN BY THESE PRESENTS THAT**

\_\_\_\_\_  
(NAME OF CONTRACTOR)

\_\_\_\_\_  
(ADDRESS OF CONTRACTOR)

a Corporation Partnership, hereinafter called Principal, and

\_\_\_\_\_  
(NAME OF SURETY)

\_\_\_\_\_  
(ADDRESS OF SURETY)

hereinafter called Surety, are held and firmly bound unto

THE CITY OF GEORGETOWN, SOUTH CAROLINA  
(NAME OF OWNER)

PO BOX 939, GEORGETOWN, SC 29442  
(ADDRESS OF OWNER)

hereinafter called Owner, in the penal sum of \_\_\_\_\_ Dollars  
\_\_\_\_\_ Cents (\$ \_\_\_\_\_), (110% of bid value) in lawful money of the United  
States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs,  
executors, administrators, and successors, jointly and severally, firmly by these present.

**THE CONDITION OF THIS OBLIGATION** is such that whereas the Principal entered into a  
certain Contract with the Owner dated the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, a  
copy of which is hereto attached and made part hereof for **CONSTITUTION PARK  
BULKHEAD REPLACEMENT**.

**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  
term thereof, and any extensions thereof which may be granted by the Owner, with or without  
notice to the Surety, and if he shall satisfy all claims and demands incurred under such contract and  
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, extensions of time, alteration, or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specifications.

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

**IN WITNESS WHEREOF**, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

Signed, sealed and delivered in the presence of:

\_\_\_\_\_  
(PRINCIPAL - CONTRACTOR)

\_\_\_\_\_  
(SIGNATURE)

\_\_\_\_\_  
As to Principal

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

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

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

\_\_\_\_\_  
(SIGNATURE)

\_\_\_\_\_  
As to Surety

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

ATTORNEY-IN-FACT  
(Power of Attorney to be attached)

By: \_\_\_\_\_  
(RESIDENT AGENT)

\_\_\_\_\_  
(RESIDENT AGENT COMPANY NAME)

\_\_\_\_\_  
(RESIDENT AGENT COMPANY ADDRESS)

\_\_\_\_\_  
(RESIDENT AGENT ADDRESS)

**NOTES:**

1. Date of Bond must not be prior to date of Contract.
2. If Contractor is a Partnership, all partners should execute Bond.
3. Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

**(END OF SECTION)**



**SECTION 00501.2  
PAYMENT BOND**

**KNOW ALL MEN BY THESE PRESENTS THAT**

---

(NAME OF CONTRACTOR)

---

(ADDRESS OF CONTRACTOR)

a Corporation Partnership, hereinafter called Principal, and

---

(NAME OF SURETY)

---

(ADDRESS OF SURETY)

hereinafter called Surety, are held and firmly bound unto

THE CITY OF GEORGETOWN, SOUTH CAROLINA  
(NAME OF OWNER)

PO BOX 939, GEORGETOWN, SC 29442  
(ADDRESS OF OWNER)

hereinafter called Owner, in the penal sum of \_\_\_\_\_ Dollars  
\_\_\_\_\_ Cents (\$ \_\_\_\_\_), (100% of bid value) in lawful money of the United  
States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs,  
executors, administrators, and successors, jointly and severally, firmly by these present.

**THE CONDITION OF THIS OBLIGATION** is such that whereas the Principal entered into a  
certain Contract with the Owner dated the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, a  
copy of which is hereto attached and made part hereof for **CONSTITUTION PARK  
BULKHEAD REPLACEMENT**.

**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 of 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.

PAYMENT BOND  
00501.2

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

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

**IN WITNESS WHEREOF**, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

Signed, sealed and delivered in the presence of:

\_\_\_\_\_  
(PRINCIPAL - CONTRACTOR)

\_\_\_\_\_  
(SIGNATURE)

\_\_\_\_\_  
As to Principal

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

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

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

\_\_\_\_\_  
(SIGNATURE)

\_\_\_\_\_  
As to Surety

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

ATTORNEY-IN-FACT  
(Power of Attorney to be attached)

By: \_\_\_\_\_  
(RESIDENT AGENT)

\_\_\_\_\_  
(RESIDENT AGENT COMPANY NAME)

\_\_\_\_\_  
(RESIDENT AGENT COMPANY ADDRESS)

\_\_\_\_\_  
(RESIDENT AGENT ADDRESS)

**NOTES:**

1. Date of Bond must not be prior to date of Contract.
2. If Contractor is a Partnership, all partners should execute Bond.
3. Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

**(END OF SECTION)**

**SECTION 00502**  
**NOTICE OF INTENT TO AWARD**

OWNER: City of Georgetown, SC

PROJECT: CONSTITUTION PARK BULKHEAD REPLACEMENT, PROJECT NO. 1207

**TO ALL BIDDERS**

This is to notify all Bidders that it is the intent of the Owner to award a contract as follows:

NAME OF BIDDER: \_\_\_\_\_

DATE BIDS WERE RECEIVED: \_\_\_\_\_

AMOUNT OF BASE BID: \$ \_\_\_\_\_

ALTERNATE(S) ACCEPTED: \$ \_\_\_\_\_

TOTAL AMOUNT WITH ALTERNATE(S): \$ \_\_\_\_\_

The Owner has determined that the above named Bidder is responsible and has submitted the winning bid. The Owner may enter into a contract with this Bidder subject to the contract review by \_\_\_\_\_.

\_\_\_\_\_  
(Print or Type Name) (Award Authority Title)

\_\_\_\_\_  
(Signature) (Date Posted)

(END OF SECTION)

**SECTION 00503  
NOTICE OF AWARD**

TO:

PROJECT: CONSTITUTION PARK BULKHEAD REPLACEMENT, PROJECT NO. 1207

The Owner has considered the bid dated \_\_\_\_\_ 20 \_\_\_\_, submitted by you for the above described work in response to its Advertisement for Bids and its Information for Bidders.

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

You are required by the Information for Bidders to execute the Agreement and furnish the required Contractor's W-9 form, City's business license, performance bond, payment bond, and certificates of insurance within ten (10) business days from the date of this notice to you. If you fail to execute said agreement and to furnish said bonds within ten (10) business days from the date of this notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your bid as abandoned and as a forfeiture of your bid 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.

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

CITY OF GEORGETOWN, SOUTH CAROLINA

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

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

Acceptance of Notice

Receipt of the above Notice of Award is hereby acknowledged this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(Signature)

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

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

**(END OF SECTION)**  
**NOTICE OF AWARD**  
00503-1

**SECTION 00600**  
**EMPLOYMENT ELIGIBILITY VERIFICATION REQUIREMENT**

- A. Contractor is required to comply with all applicable State and Federal employment eligibility verification requirements including but not limited to the following:
1. By signing its bid or proposal, Contractor certifies that it will comply with the applicable requirements of Title 41, Chapter 8 of the South Carolina Code of Laws and agrees to provide to the City of Georgetown upon request any documentation required to establish either: (a) that Title 41, Chapter 8 is inapplicable both to Contractor and its subcontractors or sub-subcontractors are in compliance with Title 41, Chapter 8. Pursuant to Section 41-8-70, "In addition to other penalties provided by law, a person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony, and upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both. "Contractor agrees to include in any contracts with its subcontractors language requiring its subcontractors to (a) comply with the applicable requirement of Title 41, Chapter 8, and (b) include in their contracts with the sub-subcontractors language requiring the sub-subcontractors to comply with the applicable requirements of Title 41, Chapter 8.
- B. Contractor is required to complete and submit the attached affidavit along with the executed contract documents.
- C. E-Verify.
1. In addition to completing and maintaining the federal employment eligibility verification form (Form I-9), Contractor must, within three (3) business days after employing a new employee, verify the employee's work authorization through the E-Verify federal work authorization program administered by the U.S. Department of Homeland Security. Employers may no longer confirm a new employee's employment authorization with a driver's license or state identification card.
  2. Contractor shall enroll in E-Verify at [www.dhs.gov/e-verify](http://www.dhs.gov/e-verify).

## CONTRACTOR AFFIDAVIT

### SOUTH CAROLINA ILLEGAL IMMIGRATION REFORM ACT (Amended)

In accordance with the requirements of the South Carolina Illegal Immigration Reform Act, Contractor hereby certifies that it is currently in compliance with the requirements of Title 40, Chapter 8 of the S.C. Code Annotated and will remain in compliance with such requirements throughout the term of its contract with the Owner.

The Contractor hereby acknowledges that in order to comply with requirements of S.C. Code Annotated Section 41-8-20:

- (A) All private employers in South Carolina shall be imputed a South Carolina employment license, which permits a private employer to employ a person in this State. A private employer may not employ a person unless the private employer's South Carolina employment license and any other applicable licenses as defined in Section 41-8-10 are in effect and are not suspended or revoked. A private employer's employment license shall remain in effect provided the private employer complies with the provisions of this chapter.
- (B) All private employers who are required by federal law to complete and maintain federal employment eligibility verification forms or documents must register and participate in the E-Verify federal work authorization program, or its successor, to verify the work authorization of every new employee within three business days after employing a new employee. A private employer who does not comply with the requirements of this subsection violates the private employer's licenses.
- (C) The South Carolina Department of Employment and Workforce shall provide private employers with technical advice and electronic access to the E-Verify federal work authorization program's website for the sole purpose of registering and participating in the program.
- (D) Private employers shall employ provisionally a new employee until the new employee's work authorization has been verified pursuant to this section. A private employer shall submit a new employee's name and information for verification even if the new employee's employment is terminated less than three business days after becoming employed. If a new employee's work authorization is not verified by the federal work authorization program, a private employer must not employ, continue to employ, or reemploy the new employee.
- (E) To assist private employers in understanding the requirements of this chapter, the director shall send written notice of the requirements of this section to all South Carolina employers, and shall publish the information contained in the notice on its

website. Nothing in this section shall create a legal requirement that any private employer receive actual notice of the requirements of this chapter through written notice from the director, nor create any legal defense for failure to receive notice.

- (F) If a private employer is a contractor, the private employer shall maintain the contact phone numbers of all subcontractors and sub-subcontractors performing services for the private employer. The private employer shall provide the contact phone numbers or a contact phone number, as applicable, to the director pursuant to an audit or investigation within seventy-two hours of the director's request.

The Contractor agrees to provide to the Owner upon request any documentation required to establish the applicability of the South Carolina Illegal Immigration Reform Act (Amended) to the contractor, subcontractor or sub-subcontractor. The Contractor further agrees that it will upon request provide the Owner with any documentation required to establish that the Contractor and any subcontractors or sub-subcontractors are in compliance with the requirements of Title 41, Chapter 8 of the S.C. Code Annotated.

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

\_\_\_\_\_  
(Signature)

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

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

(END OF SECTION)



**SECTION 00606  
NOTICE TO PROCEED**

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

PROJECT: CONSTITUTION PARK BULKHEAD REPLACEMENT

OWNER: City of Georgetown, South Carolina

PROJECT NUMBER: 1207

This is your Notice to Proceed with the Work, on the above-mention Project, in accordance with the Agreement dated \_\_\_\_\_ 20 . You are authorized to commence work on \_\_\_\_\_ 20 , and you are required to complete the Work within Ninety (90) consecutive calendar days thereafter.

The date of final completion for all Work is therefore: \_\_\_\_\_ 20 .

You are required to return an acknowledged copy of this Notice to Proceed to the Owner. Dated this \_\_\_ day of \_\_\_\_\_, 20\_\_.

CITY OF GEORGETOWN, SOUTH CAROLINA

\_\_\_\_\_

(Signature)

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

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

Acceptance of Notice

Receipt of the above Notice to Proceed is hereby acknowledged this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_

(Signature)

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

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

(END OF SECTION)

NOTICE TO PROCEED

00606-1

**SECTION 00610  
APPLICATION FOR PAYMENT**

TO: CITY OF GEORGETOWN, SC      PAY REQUEST NO.: \_\_\_\_\_

FROM: \_\_\_\_\_

Distribution to:

VIA: \_\_\_\_\_

\_\_\_ Owner

PROJECT \_\_\_\_\_

\_\_\_ Design Professional

\_\_\_\_\_

\_\_\_ Contractor

PROJECT NO.: \_\_\_\_\_

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

CONTRACT FOR: \_\_\_\_\_

**CONTRACTOR'S APPLICATION FOR PAYMENT**

| CHANGE ORDER SUMMARY                               |               |  |           |            |
|--|---------------|--|-----------|------------|
| Change Orders approved in previous months by Owner |               |  | ADDITIONS | DEDUCTIONS |
| TOTALS:  |               |  |           |            |
| Approved this Month                                |               |  |           |            |
| Number   | Date Approved |  |           |            |
|  |               |  |           |            |
|  |               |  |           |            |
|  |               |  |           |            |
|  |               |  |           |            |
| TOTALS:  |               |  |           |            |
| Net changes by Change Order                        |               |  |           |            |

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates of Payment were issued and payments received from the Owner, and that current payment shown herein are now due.

CONTRACTOR:

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

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

Application for Payment, as indicated below, in connection with the Contract.

(Continuation Sheet is attached)

|   |    |
|---|----|
| 1 – ORIGINAL CONTRACT SUM   | \$ |
| 2 – Net changes by CHANGE Orders                                      | \$ |
| 3 – CONTRACT SUM TO DATE (Line 1 + Line 2)                            | \$ |
| 4 – TOTAL COMPLETED AND STORED TO DATE<br>("G" on Continuation Sheet) | \$ |
| 5 – RETAINAGE ("I" on Continuation Sheet)                             | \$ |
| 6 – TOTAL EARNED LESS RETAINAGE (Line 4 – Line 5)                     | \$ |
| 7 – LESS PREVIOUS CERTIFICATES FOR PAYMENT                            | \$ |
| 8 – CURRENT PAYMENT DUE   | \$ |
| 9 – BALANCE TO FINISH, PLUS RETAINAGE (Line 3 – Line 5)               | \$ |

State of: \_\_\_\_\_ County of: \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_20\_\_.

Notary Public: \_\_\_\_\_ My Commission Expires: \_\_\_\_\_

**CONTRACTOR’S APPLICATION FOR PAYMENT**

In accordance with the Contract Documents, based on on-site observations and the data comprising the above application, the Design Professional certifies to the Owner that to the best of the Design Professional's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED. Some defects or problems with construction items may not be determined until final testing and operation of the system is performed. The Design Professional cannot be held liable for approval for partial payments for the installation of these items from which the evidence of defects or problems were not determined until after the request for payment was approved.

**AMOUNT CERTIFIED** \$ \_\_\_\_\_

(Attach explanation if amount certified differs from amount applied for.)

**DESIGN PROFESSIONAL:**

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

**OWNER:**

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

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are not without prejudice to any rights of the Owner or Contractor under this Contract.

**SECTION 00620  
CONTRACTOR'S AFFIDAVIT**

The State of \_\_\_\_\_ Date: \_\_\_\_\_

The County of \_\_\_\_\_ The City of \_\_\_\_\_

\_\_\_\_\_ of \_\_\_\_\_  
(Officer's Name) (Officer's Title) (Contractor's Name)

being duly sworn, deposed and says that \_\_\_\_\_ has furnished  
(Contractor's Name)

labor and materials entering into the \_\_\_\_\_  
(Project Name)

dated \_\_\_\_\_ with the City of Georgetown, South Carolina.

\_\_\_\_\_ states further that this officer has full knowledge of all  
(Contractor's Name)

obligations for such labor and materials which have entered into and become part of that certain project known and designated above, and that this officer further deposes and says that all debts and other obligations for such labor and materials have been fully and completely paid for in good and lawful money of the United States of America and that there are no suits for damages against them proceeding, prospective and/or that there are no suits for damages against them proceeding, prospective, or otherwise, in consequence of their operations on the above said project.

The said \_\_\_\_\_ will hold the Owner, the City of Georgetown  
(Contractor's Name)

South Carolina, blameless of any and all mechanic's liens that may be hereafter entered or filed for record, so as to constitute charge against said premises for work or labor done or materials furnished by them.

IN WITNESS HEREOF, this officer has heretofore put his hand and seal:

\_\_\_\_\_  
(Officer's Name)

I, Notary Public in and for the above named County and State do hereby certify that \_\_\_\_\_ personally know to me to be the  
(Officer's Name)

affiant in the foregoing Affidavit, personally appeared before me this day and, having been duly sworn, deposed and says the facts set forth in the above Affidavit are true and correct.

WITNESS my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

\_\_\_\_\_  
Notary Public for the State of \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

**SECTION 00630  
CONTRACT CHANGE ORDER**

DATE: \_\_\_\_\_  
CHANGE ORDER #: \_\_\_\_\_

PROJECT: \_\_\_\_\_  
PROJECT # \_\_\_\_\_

Description of and Reason for Change: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Itemization of Proposed Change and Basis for Payment**

Original Contract Price ..... \$ \_\_\_\_\_

Previous Change Orders ..... \$ \_\_\_\_\_

This Change, (An Addition) (A Deduction) of ..... \$ \_\_\_\_\_

Proposed Revised Contract Price ..... \$ \_\_\_\_\_

Additional funds shall be provided in the following manner: \_\_\_\_\_  
\_\_\_\_\_

Extension of Contract Time Required: \_\_\_\_\_ Days.

Revised Contract Completion Date: \_\_\_\_\_

Accepted by the Contractor:

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

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

Recommended by: \_\_\_\_\_

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

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

Approved by the Owner:

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

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

**SECTION 00700  
GENERAL CONDITIONS**

1. CONTRACT AND CONTRACT DOCUMENTS. The drawings (plans), specifications and addenda, hereinafter enumerated in Section 00005, 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, heading, 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.

Contents

|   |  |   |
|---|--|---|
| <p>1. Contract and Contract Documents</p> <p>2. Definitions</p> <p>3. Additional Instructions and Detail Drawings</p> <p>4. Shop Drawings and Samples</p> <p>5. Materials, Services, and Facilities</p> <p>6. Contractor’s Title to Materials</p> <p>7. Inspection and Testing of Materials</p> <p>8. “Or Equal” Clause</p> <p>9. Patents</p> <p>10. Surveys, Laws, and Regulations</p> <p>11. Contractor’s Obligations</p> <p>12. Weather Conditions</p> <p>13. Protection of Work and Property, Emergency</p> <p>14. Interpretations</p> <p>15. Reports, Records, and Data</p> <p>16. Superintendence by Contractor</p> <p>17. Changes in Work</p> <p>18. Extras</p> <p>19. Time for Completion and Liquidated Damages</p> <p>20. Correction of Work</p> <p>21. Subsurface Conditions Found Different</p> <p>22. Claims for Extra Cost</p> <p>23. Right of Owner to Terminate Contract</p> <p>24. Construction Schedule and Periodic Estimates</p> <p>25. Payments to Contractor</p> <p>26. Acceptance of Work and Final Payment as Release</p> | <p>27.</p> <p>28.</p> <p>29.</p> <p>30.</p> <p>31.</p> <p>32.</p> <p>33.</p> <p>34.</p> <p>35.</p> <p>36.</p> <p>37.</p> <p>38.</p> <p>39.</p> <p>40.</p> <p>41.</p> <p>42.</p> <p>43.</p> <p>44.</p> <p>45.</p> <p>46.</p> <p>47.</p> | <p>Acceptance of Final Payment as Release</p> <p>Payments by Contractor</p> <p>Insurance</p> <p>Payment and Performance Bond</p> <p>Assignments</p> <p>Mutual Responsibility of Contractors</p> <p>Separate Contracts</p> <p>Subcontracting</p> <p>Design Professional’s Authority</p> <p>Stated Allowances</p> <p>Use of Premises and Removal of Debris</p> <p>Quantities of Estimate</p> <p>Rights-of-Way and Suspension of Work</p> <p>Warranty for One Year After Completion of Contract</p> <p>Notice and Service Thereof</p> <p>Required Provisions Deemed Inserted</p> <p>Protection of Lives and Health</p> <p>Wages and Overtime Compensation</p> <p>Prohibited Interests</p> <p>Conflicting Conditions</p> <p>Indemnification</p> |
|---|--|---|

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

- 1) 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 City 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 City, unless otherwise expressly stated.
  - 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 or 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.
  
- 2) 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 Design Professional 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 Design Professional 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.
  
- 3) SHOP DRAWINGS AND SAMPLES. Submit to the Design Professional for approval, in accordance with the requirement of Section 01340
  - A Samples. Contractor shall also submit to the Design Professional for approval, all samples required by Section 01340. All samples will have been checked by and stamped

- 4) with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.
- A Deviations. At the time of each submission, Contractor shall in writing call the Design Professional's attention to any deviations that the Shop Drawings or Samples may have from the requirements of the Contract Document.
- B Design Professional's Review. Design Professional 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 Design Professional 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 Design Professional on previous submissions. Contractor's stamp of approval on any Shop Drawing or sample shall constitute a representation to Owner and Design Professional 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
- C 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 the Design Professional. 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 Design Professional.
- D Contractor's Responsibility. Design Professional'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 Design Professional's attention to such deviation at the time of submission and Design Professional has given written approval to the specific deviation, nor shall any approval by Design Professional relieve Contractor from Responsibility for errors or omissions in the Shop Drawings.
- 5) 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, superintendent, 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.
- 6) 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.
- 7) 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 shall be made by bureaus, laboratories, or agencies approved by 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.
- 8) "OR EQUAL" CLAUSE. The phrase "or equal" shall be construed to mean that material or equipment will be acceptable only when, in the judgment of the Design Professional, they are composed of parts of equal quality, 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 must be obtained from the Design Professional prior to purchase of proposed substitution.
- 9) 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 material 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, with 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 obligated 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 Construction staking shall be the responsibility of the Contractor.

B Laws and Regulations. The Contractor shall keep himself fully informed of all laws, ordinances, and regulations of the 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, ordinance, 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, regulation, order, or decree, whether by himself or by his employees.

11) CONTRACTOR'S OBLIGATIONS. The Contractor shall, in good workman-like manner do 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 Design Professional 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 limitation of the contract and specifications, and shall do, carry on, and complete the entire work to the satisfaction of the Design Professional and the Owner.

12) WEATHER CONDITIONS. In the event of temporary suspension of work or during inclement weather, or whenever the Design Professional 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 Design Professional, 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. 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 Design Professional, in a diligent manner. He shall

notify the Design Professional immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Design Professional for approval. 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 Design Professional 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. See Section 01720 Project Record Documents.

16) SUPERINTENDENCE BY CONTRACTOR. The Contractor shall employ only competent and skilled men on the work. The Contractor shall have 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 Design Professional 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 Design Professional, immediately remove any superintendent, foreman, or workman whom the Design Professional 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 social security, unemployment insurance, and worker's compensation insurance.

2 Materials and supplies, including the cost of transportation, entering permanently into the work.

3 The ownership or rental cost of equipment during the time of use for the extra work.

4 Power and consumable supplies for the operation of power equipment.

To the cost under (C) there shall be added a fixed fee to be agreed upon but not to exceed 15 percent (15%) of the estimated cost of the work. This fee shall be compensation to cover the cost of supervision, overhead, insurance, bond, profit, and any other general expenses.

For the work performed by a Subcontractor, change order payment shall be made on the same basis as above to which the General Contractor may not exceed Ten Percent (10%). This fee shall be compensation to cover the cost of supervision, overhead, insurance, 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 Design Professional 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 embraced in this contract shall be commenced on a date to be specified in the Notice to Proceed.

A To any preference, priority, or allocation order duly issued by the Government.

B To unforeseeable cause beyond the control and without the fault or negligence of the Contractor including, but not restricted to, acts 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, hurricanes, and tornadoes.

C To any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections (A) and (B) 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, who shall ascertain the facts and extent of delay and notify the Contractor with a reasonable time of its decision in the matter, and grant such extension of time as the Owner shall deem suitable and just.

Normal weather conditions for the project area are taken into consideration in the time for completion of the contract; therefore, no extension of time will be extended for normal weather conditions, with the exception of hurricanes and tornadoes.

20) CORRECTION OF WORK. All work, all materials, whether incorporated in the work or not, all processes of manufacturer, and all methods of construction, shall be at all times and places subject to the inspection of the Design Professional, 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 immediately be removed from the site. If, in the opinion of the Design Professional, 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 judgment of the Design Professional, 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 Design Professional of such conditions before they are disturbed. The Design Professional 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, in a timely manner, 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 Design Professional, as aforesaid, and the claim presented with the first estimate after the changes or extra work is done. When work is performed under the terms of subparagraph 17(C) 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 prosecute same to completion by the 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 thereby, and in such event the Owner may take possession of and utilize in completion the work such materials, appliances, and plant as may be on the site of the work and necessary therefore. 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 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 of the Owner desires to terminate.

24) CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES. Within ten (10) calendar days after execution and delivery of the contract and before the first partial payment is made, the Contractor shall deliver to the Owner

A Construction Schedule. 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.

B Contractor's Schedule of Values. The Contractor shall also furnish:

- 1 A Schedule of Values giving a complete breakdown of the contract price; and;
- 2 Itemized Schedule of Values will be used 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.

C Materials and 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) PAYMENT TO CONTRACTOR shall be made according to the following:

A No later than thirty (30) days after the City's Design Professional approves the request for payment. The Owner shall make a progress payment to the Contractor on the basis of a duly certified approved estimate of the work performed during the preceding calendar month under this contract. The City requires that checks are to be mailed by USPS to the contractor. 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 is 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.

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 worked, 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, material, men, 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 compiled with:

A Final Inspection. Upon notice from the Contractor that their work is completed, the Design Professional will make a final inspection of the work and shall notify the Contractor of all instances where their work fails to comply with the 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 specifications and to satisfaction of the Design Professional.

B Operating Test. After the alterations for compliance with the specifications have been made, and before acceptance of the whole or any part of the work, it shall be subjected to test to determine that it is in accordance with the 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 Design Professional 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 damages 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 Design Professional 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 of his sureties from any obligations under this Contract 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 any- one 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 00110 entitled INSURANCE REQUIREMENTS.

B Certificates of Insurance. The Contractor shall furnish the Owner certificates shown in the type, amount, class of operations covered, effective dates, and dates of expiration of the policies. Certificates showing proof of such insurance shall be submitted to the Owner prior to commencement of services under this Agreement. Such certificates shall contain substantially the following statement: "The insurance covered by this certificate will not be canceled or materially altered except after ten (10) days written notice has been received by the Owner". Further, it shall be an affirmative obligation upon the Contractor to advise the City's Risk Manager within two days of the cancellation or substantive

30) PAYMENT AND PERFORMANCE BONDS. The Contractor shall furnish a one hundred and ten (110) percent performance bond and a one hundred (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 is agreed that the right of 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 sub-contractor shall suffer loss or 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 Design Professional 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.
- 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 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 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 Contract 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) DESIGN PROFESSIONAL'S AUTHORITY. The Design Professional 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 decide all questions which may arise in relation to said work and the construction thereof. The Design Professional'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 Design Professional 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 questions.

- A Interpretation of Drawings and Specifications. The Design Professional 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 Design Professional.

36) STATED ALLOWANCES. N/A

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. To make arrangements with adjacent property owners for parking of equipment if necessary.
- 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, false work, 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 or specifications, and, except with the consent of the Design Professional, 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 no 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 inability 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 SUBSTANTIAL COMPLETION OF CONTRACT. For a period of at least one (1) year after the substantial 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

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 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 00015 entitled REFERENCES.

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

A All persons on the Site or who may be affected by the Work:

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

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

Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss;

and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Design Professional or Design Professional's Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Design Professional has issued a notice to Owner and Contractor that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

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 sub-contract 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 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 provisions 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) INDEMNIFICATION

A The Contractor will indemnify and hold harmless the Owner, the Design Professional, 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 including the loss of use resulting therefrom; and is caused in whole or in part

by any negligent or willful act of omission of the Contractor and Sub-Contractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

- B In any and all claims against the Owner or the Design Professional, or any of their agents or employees, by an employee of the Contractor, any Sub-Contractor, anyone directly 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 limitation on the amount or 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 benefit acts.

**(END OF SECTION)**

**SECTION 00800**  
**SUPPLEMENTARY CONDITIONS**

1. WORKING HOURS

The contractor is allowed to work during normal working hours from Monday through Friday 7:00 AM to 6:00 PM. If the contractor chooses to work outside normal working hours, then it is the Contractor's responsibility to contact all residents within the project limit and give them a notice of work being performed at least twenty four (24) hours prior to the start of work. All efforts must be made by the contractor to notify the residents verbally. If all efforts of verbal notifications fail, then the Contractor may use a door hanger to notify the resident. A copy of the door hanger must be sent to the project manager for approval.

2. BUSINESS LICENSE AND PERMITS.

The selected contractor shall be required to obtain all applicable City of Georgetown permits and business licenses. Contact Jestin Gilliard, Revenues Manager, 843-545-4041 to obtain a City business license. These expenses shall be included in the total bid unit price.

3. PROJECT SCHEDULE OF EVENTS

The following is the schedule of events listed in the order of occurrence, showing the major milestones from issuance of the RFP to the contract award.

| MILESTONE EVENT   | DATE   |
|---|--|
| 1. BID ADVERTISEMENT  | Wednesday, April 11, 2018                            |
| 2. <b>MANDATORY PRE-BID MEETING</b><br>At site location – Constitution Park   | <b>Wednesday, April 25, 2018 at 10:00 AM</b>         |
| 3. DEADLINE FOR QUESTIONS   | Friday, April 27, 2018 before 2:00 PM                |
| 4. DEADLINE FOR ADDENDA(S) TO BE POSTED TO CITY'S WEBSITE<br><a href="http://WWW.COGSC.COM">WWW.COGSC.COM</a> UNDER "BIDS". | Wednesday, May 2, 2018                               |
| 5. BID DUE DATE   | <b>Tuesday, May 8, 2018 by no later than 2:00 PM</b> |
| 6. APPROVAL OF CONTRACT BY CITY COUNCIL<br>(TENTATIVE)  | May 17, 2018   |
| 7. NOTICE TO PROCEED (TENTATIVE)  | June 5, 2018   |
| 8. COMPLETION DATE  | 90 DAYS AFTER NOTICE TO PROCEED                      |

**SECTION 00900  
DRAWING INDEX**

| <b><u>TITLE</u></b> | <b><u>SHEET NO.</u></b> |
|---------------------|-------------------------|
| TITLE AND LOCATION  | T1                      |
| GENERAL INFORMATION | G1                      |
| EXISTING SITE PLAN  | C1                      |
| DEMOLITION PLAN     | D1                      |
| PROPOSED SITE PLAN  | S1                      |
| DETAILS             | S2                      |
| DETAILS 2           | S3                      |

**(END OF SECTION)**



**SECTION 01046  
CONTROL OF WORK AND MATERIALS**

**PART 1 – GENERAL (NOT APPLICABLE)**

**PART 2 – PRODUCTS (NOT APPLICABLE)**

**PART 3 – EXECUTION**

**3.01 HAULING, HANDLING AND STORAGE OF MATERIALS:**

- A. The Contractor shall, at its own expense, handle and haul all materials furnished by it and shall remove any of its surplus materials at the completion of the work.
- B. The Contractor shall provide suitable and adequate storage for equipment and materials furnished by it that are liable to injury and shall be responsible for any loss of or damage to any equipment or materials by theft, breakage, or otherwise.
- C. All excavated materials and equipment to be incorporated in the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the work. Materials and equipment shall be kept neatly piled and compactly stored in such location as will cause a minimum of inconvenience to public travel and adjoining owners, tenants and occupants.
- D. The Contractor shall be responsible for all damages to the work under construction during its progress and until final completion and acceptance even though partial payments have been made under the Contract.

**3.02 EASEMENTS AND ENCROACHMENTS:**

- A. As indicated on the drawings, the work is located in encroachments obtained by the Owner. The Contractor has no rights outside of the encroachments unless they are obtained from the adjacent property owner(s).
- B. Contractor shall schedule work so that it will cause minimum inconvenience and nuisance to abutting property owners, over the shortest possible time.
- C. Encroachments shall be kept clean; no rubbish or discarded construction materials shall be allowed to accumulate. Storage of excess construction materials, including soil, ledge, equipment, or machinery on encroachments will not be allowed.
- D. Restoration of fences, shrubs, trees and grass shall be completed promptly following completion of the work in an encroachment(s), to minimize disruption and inconvenience to property owners.

3.03 OPEN EXCAVATIONS:

- A. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at its own expense, provide suitable and safe means for completely covering all open excavations and for accommodating travel when work is not in progress.
- B. Bridges provided for access to private property during construction shall be removed when no longer required.
- C. The length of open trench will be controlled by the particular surrounding conditions but shall always be confined to the limits prescribed by the Engineer.
- D. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, then special construction procedures shall be taken, such as limiting the length of trench and prohibiting stocking excavated material in the street.
- E. All street excavations shall be completely closed at the end of each work day. Backfilling or use of steel plates of adequate strength to carry traffic shall be used.

3.04 MAINTENANCE OF TRAFFIC:

- A. Unless permission to close the street is received in writing from the proper authority, all excavated materials and equipment shall be placed so that vehicular and pedestrian traffic may be safely maintained at all times.
- B. The Contractor shall at its own expense provide and erect acceptable barricades, barrier fences, traffic signs, and all other traffic devices not specifically covered in a bid item, to protect the work from traffic, pedestrians, and animals. The Contractor shall provide sufficient temporary lighting such as lanterns/flashers (electric battery operated) or other approved illuminated traffic signs and devices to afford adequate protection to the traveling public, at no additional cost to the Owner.
- C. Nothing contained herein shall be construed as relieving the Contractor of any of its responsibilities for protection of persons and property under the terms of the Contract.

3.05 CARE AND PROTECTION OF PROPERTY:

The Contractor shall be responsible for the preservation of all public and private property and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be promptly restored by the Contractor, at its expense, to a condition similar or equal to that existing before the damage was done, to the satisfaction of the Engineer.

3.06 PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES:

- A. All existing buildings, utilities, pipes, poles, wires fences, curbing, property line

markers and other structures which the Engineer decides must be preserved in place without being temporarily or permanently relocated, shall be carefully supported and protected from damage by the contractor. Should such property be damaged, it shall be restored by the Contractor, at no additional cost to the Owner.

- B. The Contractor shall determine the location of all underground structures and utilities (including existing water services, drain lines, electrical lines, and sewers). Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by Contractor.
- C. When fences interfere with the Contractor's operations, it shall remove and (unless otherwise specified) promptly restore them to a condition similar or equal to that existing before removal was done, to the satisfaction of the engineer.
- D. On paved surfaces the Contractor shall not use or operate tractors, bulldozers, or other power-operated equipment with treads or wheels which are shaped so as to cut or otherwise damage such surfaces.
- E. All property damaged by the Contractor's operations shall be restored to a condition at least equal to that in which it was found immediately before work was begun. Suitable materials and methods shall be used for such restoration.
- F. Restoration of existing property and structures shall be carried out as promptly as practicable and shall not be left until the end of the construction period.

**3.07 MAINTENANCE OF FLOW:**

- A. The Contractor shall at its own cost, provide for the flow of sewers and drains interrupted during the progress of the work, and shall immediately cart away and dispose of all offensive matter. The entire procedure of maintaining existing flow shall be fully discussed with the Engineer well in advance of the interruption of any flow.
- B. All existing drainage facilities including, but not limited to; brooks, streams, canals, channels, ditches, culverts, catch basins and drainage piping shall be adequately safeguarded so as not to impede drainage or to cause siltation of downstream areas in any manner whatsoever. If the Contractor damages or impairs any of the aforesaid drainage facilities, it shall repair the same within the same day.
- C. At the conclusion of the work, the Contractor shall remove all silt in drainage structures caused by its operations as described in Section 01710, CLEANING UP.

**3.08 REJECTED MATERIALS AND DEFECTIVE WORK:**

- A. Materials furnished by the Contractor and condemned by the Engineer as unsuitable or not in conformity with the specifications shall forthwith be removed from the work by the Contractor, and shall not be made use of elsewhere in the work.
- B. Any errors, defects or omissions in the execution of the work or in the materials

furnished by the Contractor, even though they may have been passed or overlooked or have appeared after the completion of the work, discovered at any time before the final payment is made hereunder, shall be forthwith rectified and made good by and at the expense of the Contractor and in a manner satisfactory to the Engineer.

- C. The Contractor shall reimburse the Owner for any expense, losses or damages incurred in consequence of any defect, error, omission or act of the Contractor or his employees, as determined by the Engineer, occurring previous to the final payment.

3.09 SANITARY REGULATIONS:

Sanitary conveniences for the use of all persons employed on the work, properly screened from public observation, shall be provided in sufficient numbers in such manner and at such locations as may be approved. The contents shall be removed and disposed of in a satisfactory manner as the occasion requires. The Contractor shall rigorously prohibit the committing of nuisances within, on or about the work. Any employees found violating these provisions shall be discharged and not again employed on the work without the written consent of the Engineer. The sanitary conveniences specified above shall be the obligation and responsibility of the Contractor.

3.10 SITE INVESTIGATION:

The Contractor acknowledges that it has satisfied itself as to the conditions existing at the site of the work, the type of equipment required to perform this work, the quality and quantity of the materials furnished insofar as this information is reasonably ascertainable from an inspection of the site, as well as from information presented by the drawings and specifications made a part of this contract. Any failure of the Contractor to acquaint itself with available information will not relieve it from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner assumes no responsibility for any conclusion or interpretation made by the Contractor on the basis of the information made available by the Owner.

**(END OF SECTION)**

**SECTION 01050  
FIELD ENGINEERING**

**PART 1 – GENERAL**

1.1 DESCRIPTION

- A. Work included: Provide such field engineering services as are required for proper completion of the Work including, but not necessarily limited to:
  - 1. Provide all staking required to construct the facility from coordinates established by the Engineer.
  - 2. Establish the proper line and levels for installation of utilities.
  - 3. Establish the proper grades and elevations for earthwork.
- B. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. Additional requirements for field engineering also may be described in other Sections of these Specifications. These include but are not limited to the following:
- C. Work by others:
  - 1. Not less than one (1) benchmark elevations will be provided.

1.2 QUALITY ASSURANCE

- A. Provide a competent survey party and surveying instruments for staking the work.
- B. Exercise proper precautions to verify the figures shown on the Drawings prior to laying out any part of the Work.
  - 1. The Contractor will be held responsible for any errors therein that otherwise might have been avoided.
  - 2. Promptly inform the Engineer of any error or discrepancies discovered in the Drawings or Specifications in order that proper corrections may be made.

1.3 PROCEDURES:

- A. Locate and protect control points before starting work on the site.
- B. Preserve permanent reference points during progress of the Work.
- C. Do not change or relocate reference points or items of the Work without specific approval from the Engineer.
- D. Promptly advise the Engineer when a reference point is lost or destroyed, or requires relocation because of other changes in the Work.

1.4 CONSTRUCTION LAYOUT:

- A. Perform calculations, and the set of marks and stakes necessary to ensure that the work conforms to the required lines, grades, and dimensions.
- B. Relate such layout to the coordinate grid system, elevation datum, and related survey control monuments and bench marks identified on the drawings or elsewhere in the contract documents.

**PART 2 – PRODUCTS (NOT APPLICABLE)**

**PART 3 – EXECUTION (NOT APPLICABLE)**

**(END OF SECTION)**

**SECTION 01060**  
**REGULATORY REQUIREMENTS**

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

- 1.1 The construction of the project, including the letting of the 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.
- 1.2 South Carolina Sales Tax: All applicable South Carolina sales tax shall be to the account of the Contractors.
- 1.3 Use of chemicals: All chemicals used during the project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, 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.
- 1.4 Safety and Health Regulations: The Contractor shall 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)
- 1.5 The Contractor shall comply with Part V of the South Carolina Manual on Uniform Traffic Control Devices for Streets and Highways.
- 1.6 Inspection by Agencies: The representatives of the South Carolina Department of Health and Environmental Control, USDA Rural Development, Environmental Protection Agency, Department of Natural Resources and the Corps of Engineers 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.
- 1.7 Withholding for non-residents shall comply with the following:
  - A. Attention of non-residents Contractors is invited to Code Sections 12-8-540 and 12-8-550 as amended effective July 1, 1994, Section 49, Appropriations Bill, Part II.
  - B. If a non-resident Contractor is the successful bidder on this project, he/she shall be required to provide the Owner with an Affidavit (Form I-312, Nonresident Taxpayer Registration Affidavit Income Tax Withholding) affirming registration with the South Carolina Department of Revenue or the South Carolina Secretary of State's office. (Refer to attached form)
  - C. Forms to register for all taxes administered by the South Carolina Department of Revenue may be obtained by calling the License and Registration Section at (803) 737-4872 or writing to South Carolina Department of Revenue, Registration Unit, Columbia, South Carolina 29214-0140.

- D. In the absence of an Affidavit being provided, withholding in the amount of two (2) percent of the contract price will be made by the Owner.

**(END OF SECTION)**



**SECTION 01061**  
**PERMITS AND RIGHTS-OF-WAY**

**PART 1 – GENERAL**

1.1 DESCRIPTION

- A. Work Included: This section established requirements pertaining to the securing and paying for licenses, building permits, right-of-way, etc. necessary for the construction of the project.
- B. Work Not Include: Owner will obtain and provide to the Contractor, as required, copies of the following:
  - 1. South Carolina Department of Transportation Encroachment Permit for work in the State Right-of-Way
  - 2. South Carolina Department of Health and Environmental Control - Permit to Construct Water/Wastewater Facilities
- C. Office of Ocean and Coastal Resource Management Certification
- D. Related Work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. Additional requirements for field engineering also may be described in other Sections of these Specifications. These include but are not limited to the following:
    - a) None

1.2 SUBMITTALS

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

**PART 2 – PRODUCTS (NOT APPLICABLE)**

**PART 3 – EXECUTION**

2.1 BUSINESS LICENSE

- A. Determine licenses necessary to perform the work at project location.
- B. Obtain all necessary licenses required, whether of temporary or permanent nature.

2.2 BUILDING PERMITS

- A. Secure and pay for all building permits required, whether temporary or permanent nature.

2.3 RIGHT-OF-WAY, EASEMENTS

- A. Owner will provide necessary rights-of-way or easements for construction of utility lines, roads and sidewalks whether on privately or publicly owned property
- B. The Contractor shall confine their activities to the provided rights-of way and/or easements
- C. The Owner will provide no other rights-of way and/or easements over the property.

2.4 LAND

- A. Owner will provide necessary land for construction of treatment facilities, lift stations, pump stations, parks and buildings, whether on privately or publicly owned property

**(END OF SECTION)**

**SECTION 01090**  
**REFERENCED 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.

1.2 ABBREVIATIONS

A. Wherever the following abbreviations are used in these Project Documents, they are to be construed the same as the respective expressions represented:

AASHTO American Association of State Highway and Transportation Officials

ACI American Concrete Institute

AISC American Institute of Steel Construction

ALS American Lumber Standards

ANSI American National Standards Institute, Inc

ASTM American Society for Testing and Materials

AWWA American Water Works Association

AWPA American Wood Preservers Association

AWS American Welding Society

FSS Federal Specifications and Standards

GSA General Services Administration

IBC International Building Code

NACE National Association of Corrosion Engineers

NFPA National Fire Protection Association

NSF Formerly: National Sanitary Foundation

OSHA Occupational Safety and Health Administration

SPIB Southern Pine Inspection Bureau

SSPC Steel Structures Painting Council

**PART 2 – PRODUCTS (NOT APPLICABLE)**

**PART 3 – EXECUTION (NOT APPLICABLE)**

**(END OF SECTION)**

**REFERENCED STANDARDS**

**01090-1**

**SECTION 01200  
CONTRACTOR/SUBCONTRACTOR QUALIFICATION**

**PART 1 – GENERAL**

The following information and completed forms may be requested by the Owner of the three lowest bidders. The request will be made within five (5) days following the bid opening. Requested data to be received by the Owner within five (5) days of the request. Failure to provide the data in this section, upon request, will subject bidder to disqualification.

**1.1 DESCRIPTION**

- A. Information submitted will be used by the Owner to determine the competency and ability of the Contractor/Subcontractor to perform the scheduled work in a manner deemed satisfactory to the Owner. The Owner’s decision shall be final.
- B. Any Subcontractor used by the General Contractor whose portion of this project exceeds 10% of the total bid shall be required to provide the same information as the General Contractor.
- C. The Contractor/Subcontractor shall include with this section a detailed financial statement indicating the Contractor’s/Subcontractor’s financial resources. The information on that statement shall be certified by a Certified Public Accountant and shall be submitted on the Associated General Contractors of America from “Standard Questionnaires and Financial Statement for Bidders.”
- D. The Contractor/Subcontractor shall certify by attaching his signature to this Section as provided that all information contained herein is complete and all statements and answers are accurate and true. Providing misinformation, incomplete information, inaccurate information, or failure to certify the information, will subject bidder to disqualification.

**1.2 QUALIFICATIONS**

- A. Complete the following (attach additional sheets as required):
  - 1. Name: \_\_\_\_\_
  - 2. Address: \_\_\_\_\_
  - 3. City, State, Zip: \_\_\_\_\_
  - 4. Principal: \_\_\_\_\_
- B. Number of years your firm has been in business: \_\_\_\_\_
- C. List and describe a minimum of five (5) previous projects of similar size and nature completed in the last five (5) years. (Attach additional sheets, if necessary):
  - 1. \_\_\_\_\_

2.

3.

4.

5.

D. List Owner, contact and telephone number for each of the five (5) projects referenced above. (Attach additional sheets, if necessary):

1.

2.

3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

E. For the projects listed in Item C, list the original bid price, final construction costs, specified completion time, actual completion time and explanations for differences in costs and times as required. (Attach additional sheets, if necessary):

1. Original contract price: \_\_\_\_\_

Final construction price: \_\_\_\_\_

Specified completion time: \_\_\_\_\_

Actual completion time: \_\_\_\_\_

Explanation: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Original contract price: \_\_\_\_\_

Final construction price: \_\_\_\_\_

Specified completion time: \_\_\_\_\_

Actual completion time: \_\_\_\_\_

Explanation: \_\_\_\_\_

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

3. Original contract price: \_\_\_\_\_

Final construction price: \_\_\_\_\_

Specified completion time: \_\_\_\_\_

Actual completion time: \_\_\_\_\_

Explanation: \_\_\_\_\_

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

4. Original contract price: \_\_\_\_\_

Final construction price: \_\_\_\_\_

Specified completion time: \_\_\_\_\_

Actual completion time: \_\_\_\_\_

Explanation: \_\_\_\_\_

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

5. Original contract price: \_\_\_\_\_

Final construction price: \_\_\_\_\_

Specified completion time: \_\_\_\_\_

Actual completion time: \_\_\_\_\_

Explanation: \_\_\_\_\_

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

F. List the names, addresses and work of any portion of this project which will be subcontracted (more than 10% of the bid price). (Attach additional sheets, if necessary):

1. \_\_\_\_\_

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

2. \_\_\_\_\_

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

3. \_\_\_\_\_

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

4. \_\_\_\_\_

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



5. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

G. List equipment owned that is available for this project:

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

H. List equipment to be purchased, leased or rented to perform this work:

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

I. List superintendent(s), foreman or others in charge who will be assigned to this project. Provide resumes and qualifications (insert sheets as required):

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

J. List and describe current projects, current statuses of job and estimate schedule of completion. (Attach additional sheets, if necessary):

1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

K. List past projects completed with Owner of project proposed in last five (5) years. (Attach additional sheets, if necessary):

1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

L. List past projects bid on with Owner of project proposed in last five (5) years.  
(Attach additional sheets, if necessary):

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

M. List all past projects completed with Engineer in past five (5) years (Attach additional sheets, if necessary):

1. Project Name: \_\_\_\_\_

Project Manager: (Engineer's): \_\_\_\_\_

Original contract price: \_\_\_\_\_

Final construction price: \_\_\_\_\_

Specified completion time: \_\_\_\_\_

Actual completion time: \_\_\_\_\_

Explanation: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Project Name: \_\_\_\_\_

Project Manager: (Engineer's): \_\_\_\_\_

Original contract price: \_\_\_\_\_

Final construction price: \_\_\_\_\_

Specified completion time: \_\_\_\_\_

Actual completion time: \_\_\_\_\_

Explanation: \_\_\_\_\_

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

3. Project Name: \_\_\_\_\_

Project Manager: (Engineer's): \_\_\_\_\_

Original contract price: \_\_\_\_\_

Final construction price: \_\_\_\_\_

Specified completion time: \_\_\_\_\_

Actual completion time: \_\_\_\_\_

Explanation: \_\_\_\_\_

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

4. Project Name: \_\_\_\_\_

Project Manager: (Engineer's): \_\_\_\_\_

Original contract price: \_\_\_\_\_

Final construction price: \_\_\_\_\_

Specified completion time: \_\_\_\_\_

Actual completion time: \_\_\_\_\_

Explanation: \_\_\_\_\_

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

5. Project Name: \_\_\_\_\_

Project Manager: (Engineer's): \_\_\_\_\_

Original contract price: \_\_\_\_\_

Final construction price: \_\_\_\_\_

Specified completion time: \_\_\_\_\_

Actual completion time: \_\_\_\_\_

Explanation: \_\_\_\_\_

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

N. List all projects involving litigation, arbitration and/or mediation in past five (5) years (Attach additional sheets, if necessary):

1. Project Name: \_\_\_\_\_

Owner: \_\_\_\_\_

Engineer: \_\_\_\_\_

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

Explanation: \_\_\_\_\_

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

Result: \_\_\_\_\_

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

2. Project Name: \_\_\_\_\_

Owner: \_\_\_\_\_

Engineer: \_\_\_\_\_

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

Explanation: \_\_\_\_\_

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

Result: \_\_\_\_\_

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3. Project Name: \_\_\_\_\_

Owner: \_\_\_\_\_

Engineer: \_\_\_\_\_

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

Explanation: \_\_\_\_\_

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Result: \_\_\_\_\_

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4. Project Name: \_\_\_\_\_

Owner: \_\_\_\_\_

Engineer: \_\_\_\_\_

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

Explanation: \_\_\_\_\_

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Result: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Project Name: \_\_\_\_\_

Owner: \_\_\_\_\_

Engineer: \_\_\_\_\_

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

Explanation: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Result: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

O. Attach rate schedule for equipment, labor, overhead and profit.

P. Additional information:

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

I hereby certify that as a duly authorized representative of \_\_\_\_\_  
(bidder), the information provided is to the best of my knowledge accurate and that failure to  
provide accurate information will result in disqualification of my bid

(Seal)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name (Print)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

Notary Public of \_\_\_\_\_ (State)

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

**(END OF SECTION)**

**SECTION 01210  
PRECONSTRUCTION CONFERENCE**

**PART 1 – GENERAL**

**1.1 DESCRIPTION**

- A. Work included: To help clarify construction contract administration procedures, the Engineer will conduct a Preconstruction Conference prior to start of the Work. Provide attendance by the designated personnel.
- B. Related work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

**1.2 QUALITY ASSURANCE**

- A. For those persons designated by the Contractor, his Subcontractors, and suppliers to attend the Preconstruction Conference, provide required authority to commit the entities they represent to solutions agreed upon in the Conference.

**1.3 SUBMITTALS**

- A. To the maximum extent practicable, advise the Engineer at least 24 hours in advance of the Conference as to items to be added to the agenda.
- B. The Engineer will compile minutes of the Conference, and will furnish one copy of the minutes to the Contractor and required copies to the Owner. The Contractor may make and distribute such other copies as he/she wishes.

**1.4 PRECONSTRUCTION CONFERENCE**

- A. The Conference is not required but is recommended and will be scheduled to be held within 30 working days after the Owner has determined the low bidder and may be held prior to issuance of the Notice to Proceed when required by regulatory agencies having jurisdiction. In any event, the Conference will be held prior to actual start of the work.
- B. Attendance:
  - 1. Provide attendance by authorized representatives of the Contractor and major subcontractors. The Engineer will advise other interested parties, including the Owner, and request their attendance.
- C. Minimum agenda: Data will be distributed and discussed on:
  - 1. Organizational arrangement of Contractor's forces and personnel and those of subcontractors, materials suppliers, and the Engineer.
  - 2. Channels and procedures for communication.
  - 3. Construction schedule, including sequence of critical work.
  - 4. Contract Documents, including distribution of required copies of Drawings and revisions.

5. Processing of Shop Drawings and other data submitted to the Engineer for review.
6. Processing of field decisions and Change Orders.
7. Rules and regulations governing performance of Work.
8. Procedures for security, quality control, housekeeping, and related matters.

**PART 2 – PRODUCTS (NOT APPLICABLE)**

**PART 3 – EXECUTION (NOT APPLICABLE)**

**(END OF SECTION)**

**SECTION 01220**  
**PROJECT MEETINGS**

**PART 1 – GENERAL**

1.1 DESCRIPTION

- A. Work included: To enable orderly review during progress of the Project, and to provide for systematic discussion of problems, the Owner will conduct project meetings throughout the construction period.
- B. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. The Contractor's relations with his subcontractors and materials suppliers, and discussions relative thereto, are the Contractor's responsibility and normally are not part of the project meetings content.

1.2 QUALITY ASSURANCE

- A. For those persons designated by the Contractor to attend and participate in project meetings, provide required authority to commit the Contractor to solutions agreed upon in the meetings.

1.3 SUBMITTALS

- A. Agenda items: To the maximum extent practicable, advise the Owner at least 48 hours in advance of project meetings regarding items to be added to the agenda.
- B. Minutes:
  - 1. The Owner will compile Minutes of each project meeting, and will furnish three copies to the Contractor and required copies to Engineer.
  - 2. Recipients of copies may make and distribute such other copies as they wish.

**PART 2 – PRODUCTS (NOT APPLICABLE)**

**PART 3 – EXECUTION**

3.1 MEETING SCHEDULE

- A. Project meetings will be held monthly.
- B. Coordinate as necessary to establish mutually acceptable schedule for meetings.

### 3.2 MEETING LOCATION

- A. The meeting will be held at the City of Georgetown – Water Utilities and Engineering Department.

2377 Anthuan Maybank Drive  
Georgetown, SC 29440

### 3.3 PROJECT MEETINGS

- A. Attendance:

1. To the maximum extent practicable, assign the same person or persons to represent the Contractor at project meetings throughout progress of the Work.
2. Subcontractors, materials suppliers, and others may be invited to attend those project meetings in which their aspect of the Work is involved.

- B. Minimum agenda:

1. Review, revise as necessary, and approve Minutes of previous meetings.
2. Review Safety Plan and any incidents since last meeting.
3. Review progress of the Work since last meeting, including status of submittals for approval.
4. Identify problems that impede planned progress.
5. Develop corrective measures and procedures to regain planned schedule.
6. Complete other current business.

### 3.4 Revision to Minutes:

- A. Unless published Minutes are challenged in writing prior to the next regularly scheduled progress meeting, they will be accepted as properly stating the activities and decisions of the meeting.
- B. Persons challenging published Minutes shall reproduce and distribute copies of the challenged to all Minutes.
- C. Challenge to Minutes shall be settled as priority portion of “old business” at the next regularly scheduled meeting.

**(END OF SECTION)**

**SECTION 01310  
CONSTRUCTION SCHEDULES**

**PART 1 – GENERAL**

1.1 DISCRIPTION

- A. Work included: To assure adequate planning and execution of the Work so that the Work is completed within the number of calendar days allowed in the Contract, and to assist the Engineer in appraising the reasonableness of the proposed schedule and in evaluating progress of Work, prepare and maintain the schedules and reports described in this Section.
- B. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. Requirements for progress schedule: General Conditions.
  - 3. Construction period: Form of Agreement
- C. Definitions: “Day”, as used throughout the Contract unless otherwise stated, means calendar day.

1.2 QUALITY ASSURANCE

- A. Employ a scheduler who is thoroughly trained and experienced in compiling construction schedule data, and in preparing and issuing periodic reports as required below.
- B. Perform data preparation, analysis, charting, and updating in accordance with standards approved by the Engineer.
- C. Reliance upon the approved schedule:
  - 1. The construction schedule as approved by the Engineer will be an integral part of the Contract and will establish interim completion dates for the various activities under the Contract.
  - 2. Should any activity not be completed within 15 days after the stated scheduled date, the Owner shall have the right to require the Contract to expedite completion of the activity by whatever means the Owner deems appropriate and necessary, without additional compensation to the Contractor.
  - 3. Should any activity be 30 days or more behind schedule, the Owner shall have the right to perform the activity or have the activity performed by whatever method the Owner deems appropriate.
  - 4. Costs incurred by the Owner and by the Engineer in connection with expediting construction activity shall be reimbursed by the Contractor.
  - 5. It is expressly understood and agreed that failure by the Owner to exercise the option either to order the Contractor to expedite and activity or to expedite the

activity by other means shall not be considered to set a precedent for any other activities.

### 1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Preliminary analysis: Within 10 calendar days after the Contractor has received the Notice to Proceed, submit one reproducible copy and four prints of a preliminary construction schedule prepared in accordance with Part 3 of this Section.
- C. Construction schedule: Within 10 calendar days after the Contractor has received the Engineer's approval to revisions of a preliminary construction schedule, submit one reproducible copy and four prints of a construction schedule prepared in accordance with Part 3 of this Section.
- D. Periodic reports: On the first working day of each month following the submittal described in Paragraph 1.3.C above, submit four prints of the construction schedule updated as described in Part 3 of this Section.

## **PART 2 – PRODUCTS**

### 2.1 CONSTRUCTION ANALYSIS

- A. Graphically show by bar chart the order and interdependence of all activities necessary to complete the work, and the sequence in which each activity is to be accomplished, as planned by the Contractor and his project field superintendent in coordination with all subcontractors whose work is shown on the diagram.
  - 1. Provide two line bar chart; one for planned activity and one for actual completion.
- B. Include, but do not necessarily limit indicated activities to:
  - 1. Project mobilization.
  - 2. Submittal and approval of shop drawings and samples.
  - 3. Procurement of equipment and critical materials.
  - 4. Fabrication of special material and equipment, and its installation and testing.
  - 5. Final cleanup.
  - 6. Final inspecting and testing.
  - 7. All activities by the Engineer that affect progress, required dates for completion, or both, for all and each part of the Work.

## **PART 3 – EXECUTION**

### **CONSTRUCTION SCHEDULES**

**01310-2**



3.1 PRELIMINARY ANALYSIS

A. Contents:

1. Show all activities of the Contractor under this Work for the period between receipt of Notice to Proceed and submittal of construction schedule.
2. Show the Contractor's general approach to remainder of the Work.
3. Show cost of all activities scheduled for performance before submittal and approval of the construction schedule.

3.2 CONSTRUCTION SCHEDULE

- A. Provide a construction schedule incorporating all revisions from review of the preliminary analysis.

3.3 PERIODIC REPORTS

- A. Provide monthly updates of the approved construction schedule.

1. Indicate "actual" progress for each activity on the bar chart.
2. Provide written narrative summary of revisions causing delay in the program, and an explanation of correct actions taken or proposed.

3.4 REVISIONS

- A. Make periodic revisions to the schedule to incorporate delays, early completion, etc.
- B. Make only those revisions to approved construction schedule as are approved in advance by the engineer.

**(END OF SECTION)**

**SECTION 01340**  
**SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

**PART 1 – GENERAL**

1.1 DESCRIPTION

- A. Work included: Make submittals required by the Contract Documents and revise and resubmit as necessary to establish compliance with the specified requirements.
- B. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions and Sections in Division 1 of these specifications.
  - 2. Individual requirements for submittals also may be described in pertinent sections of these specifications.
- C. Work not included:
  - 1. Un-required submittals will not be reviewed by the Engineer.
  - 2. The Contractor may require his subcontractors to provide drawings, setting diagrams, and similar information to help coordinate the work, but such data shall remain between the Contractor and his subcontractors and will not be reviewed by the Engineer.

1.2 QUALITY ASSURANCE

- A. Coordination of submittals:
  - 1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
  - 2. Verify that each item and the submittal for it conform in all respects with the specified requirements.
  - 3. By affixing the Contractor's signature to each submittal, certify that this coordination has been performed.
  - 4. Review and coordinate each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.
- B. Completeness of submittal:
  - 1. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes.

2. Determine and verify all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

C. "Or equal":

1. Where the phrase "or equal" occurs in the Contract Documents, do not assume that the materials, equipment or methods will be considered as equal unless the item has been specifically so approved for this Work by the Engineer.
2. The decision of the Engineer shall be final.

D. The Engineer shall assume that no shop drawing or related submittal comprises a variation unless the Contractor advises the Engineer otherwise in writing.

### 1.3 SUBMITTALS

A. Within 10 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. Schedule for submittals including specification section, type or submittal and submittal date.
2. Construction schedule.
3. Schedule of partial payment request.

B. Make submittals of shop drawings, samples, substitution requests and other items in accordance with the provisions of this Section.

## **PART 2 – PRODUCTS**

### 2.1 SHOP DRAWINGS

A. Scale and measurements: Make shop drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the Work.

B. Large prints (11" x 17" or larger):

1. Submit shop drawings in the form of white copies.
2. Blueprints will not be acceptable.

C. Manufacturer's literature:

1. Where contents of submitted literature from manufacturers include data not pertinent to the submittal, clearly show which portions of the contents are being submitted for review.
2. Cross out or strikethrough all data not pertinent to the submittal.

D. Number of copies:

1. Product data: submit the number of copies which are required to be returned, plus three copies which will be retained by the Engineer.

2. Shop drawings: submit the number of copies which are required to be returned, plus four copies which will be retained by the Engineer.
- E. Do not begin fabrication of equipment or materials prior to Engineer's approval of shop drawings.

## 2.2 VARIATIONS

- A. With each submittal, provide specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.
- B. Provide an explanation of why the item(s) submitted are considered to be equal to the item(s) specified.
- C. Failure to submit a written notice will result in rejection of the submittal.

## 2.3 SAMPLES

- A. Provide sample or samples identical to the precise article proposed to be provided. Identify as described under "Identification of submittals" below.
1. Unless otherwise specified, submit samples in the quantity which is required to be returned, plus one which will be retained by the Engineer.
  2. By prearrangement in specific cases, a single sample may be submitted for review and, when approved, when installed in the work at a location agreed upon by the Engineer.

## 2.4 COLORS AND PATTERNS

- A. Unless the precise color and pattern is specifically called out in the Contract Documents, and whenever a choice of color or pattern is available to the specified products, submit accurate color and pattern charts to the Engineer for selection.

# **PART 3 – EXECUTION**

## 3.1 CONTRACTOR'S REVIEW OF SUBMITTALS

- A. Before submitting a shop drawing or any related material, Contractor shall:
1. Determine and verify all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto.
  2. Determine and verify the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the work.
  3. Review each such submission for conformance with the means, methods, techniques, sequences, and operations of construction, and safety precautions

and programs incidental thereto, all of which are the sole responsibility of Contractor.

4. Approve each such submission before submitting it.
  5. Stamp and sign each such submission before submitting it.
- B. Shop drawings and related materials shall be returned with comments provided that each submission has been specified and is stamped by the Contractor.
- C. Shop drawings or material not specified or which have not been approved by the Contractor shall be returned without comment.
- D. Contractor is to utilize the following stamp on all shop drawing submittals:

This shop drawing has been reviewed by (Contractor) and approved with respect to the means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incidental thereto. (Contractor) also warrants that this shop drawing complies with contract documents and comprises no variations thereto.

By:

Date:

- E. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of the General Conditions and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of the General Conditions.

### 3.2 IDENTIFICATION OF SUBMITTALS

- A. Consecutively number all submittals
1. When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new transmittal number.
  2. On re-submittals, cite the original submittal number for reference.
- B. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.
- C. On at least the first page of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was included.
- D. Maintain an accurate submittal log for the duration of the work, showing current status of all submittals at all times. Make the submittal log available to the Engineer for his review upon request.

### 3.3 GROUPING OF SUBMITTALS

## SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Unless otherwise specified, make submittals in groups containing all associated items to assure that information is available for checking each item when it is received.
  - 1. Partial submittals may be rejected as not complying with the provisions of the Contract.
  - 2. The Contractor may be held liable for delays so occasioned.

#### 3.4 TIMING OF SUBMITTALS

- A. Make submittals far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.
- B. In scheduling, allow at least twenty (20) days for review by the Engineer following his receipt of the submittal.

#### 3.5 RESUBMITTAL SCHEDULE

- A. For submittals marked “Revise and Re-Submit”, “Submit Specified Item”, or “Rejected”, re-submittal shall be within ten (10) days of the review data shown on the Engineer’s shop drawing review stamp.

#### 3.6 ENGINEER’S REVIEW

- A. Review by the Engineer does not relieve the Contractor from responsibility for errors which may exist in the submitted data.
- B. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer.
- C. Engineer’s review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given to the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
- D. Engineer’s review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto.
- E. The review and approval of a separate item as such will not indicate approval of the assembly in which the items functions.
- F. Revisions:
  - 1. Make revisions required by the Engineer.
  - 2. If the Contractor considers any required revision to be a change, he/she shall so notify the Engineer as provided for in the General Conditions.
  - 3. Make only those revisions directed or approved by the Engineer.

- G. Submittals which have been reviewed and returned to the Contractor marked “Revise and Re-submit” or “Rejected” and which are re-submitted and not in an approvable state, will not be reviewed a third time unless payment for the third and any subsequent review is by the Contractor. The engineering costs for review shall be equal to the Engineer’s charges to the Owner under the terms of the Engineering Agreement with the owner.

**(END OF SECTION)**

**SECTION 01400**  
**QUALITY REQUIREMENTS**

**PART 1 – GENERAL**

1.1 DESCRIPTION

- A. Work included: Provide workforce and equipment as are required for proper completion of the Work including, but not necessarily limited to:
  - 1. All work described in the Project Manual and Plans
  - 2. Additional work mutually agreed upon by the Owner and the Contractor
- B. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. Additional requirements for quality requirements also may be described in other Sections of these Specifications. These include but are not limited to the following:
- C. Work by others:
  - 1. An inspection and testing agency, approved by the Owner, shall be retained by the Contractor to perform tests required by SCDOT as specified on plans and SCDOT Standard Specifications.
  - 2. The performance or lack of performance of such tests and inspections shall not be construed as granting relief from the requirements of these specifications or the other contract documents

1.2 QUALITY ASSURANCE

- A. The Contractor shall have a written Quality Control Program and Inspection Procedures document that shall provide details of how compliance with the requirements of these specifications and the shop and placement drawings shall be achieved.
- B. The Contractor shall use an adequate number of skilled personnel, who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specification requirements and the methods needed for the proper performance of the work of this Specification.
- C. The Contractor shall utilize equipment adequate in type, number, size and capacity to accomplish the work of this Specification in a safe and timely manner.
- D. The Owner reserves the right to make inspections at any time at the source of supply of materials, at the place of preparation of materials, and during execution of all work.



### 1.3 SUBMITTALS

- A. When required, an excavation Safety Plan shall be submitted for review and approval by the Engineer no less than 5 days before the scheduled date for start of excavation operations. The plan shall indicate the systems, methods, and techniques to be used to ensure that excavation sidewalls will be properly guarded to protect personnel, and existing facilities and structures in the vicinity of the work.
- B. When required, a Water Control Plan shall be submitted for review and approval no less than 5 days before the scheduled date for the start of earthwork operations. The plan shall indicate the methods and techniques to be used for control of water (both surface runoff and ground water) during Work.

### 1.4 EXISTING SITE CONDITIONS

- A. Before starting work the Contractor shall thoroughly examine the site to ascertain conditions under which the work must be performed.
- B. The Contractor is responsible for familiarizing himself with the existing site conditions and be prepared to adequately care for and safeguard himself, his workers, and the Owner from damage.
- C. Existing Geotechnical Conditions if available, a copy of the report is included in the contract documents. The information contained in the report shall not be construed as a guarantee of the depth, extent, or character of materials actually present.
- D. Existing Utilities
  - 1. There now may exist in the construction area potable and non-potable water distribution systems, wastewater and stormwater collection systems, natural gas and electrical power distribution systems, telecommunication systems and other utilities.
  - 2. These utilities are both underground and overhead and their location, as shown on the plans, is approximate and is for information purposes only. In addition other utilities not shown on the plans may exist.
  - 3. The South Carolina Underground Utility Damage Prevention Act (S.C. Ann Code, 58-35-10, CT-SEQ, Supp. 1978) requires persons to ascertain the location of underground utilities, prior to excavation and demolition. The Act also requires such persons to give timely notice of intent to excavate or demolish prior to commencing such operations.

## **PART 2 – PRODUCTS (NOT APPLICABLE)**

## **PART 3 – EXECUTION**

### 3.1 PRE-CONSTRUCTION EXAMINATION

- A. General

- B. Before starting work the Contractor shall thoroughly examine the site to ascertain conditions under which the work must be performed.
- C. Existing Facilities to Remain
- D. Take measures to protect existing facilities within the work area that are not designated for removal from being damaged by the work.
- E. Survey Monuments
  - 1. Locate and protect from damage any survey monuments within the work area. Properly relocate or witness any monument that must be disturbed by the work. After completion of the work, restore monument witnesses.
- F. Immediately notify Engineer of any discrepancies between the plans and the actual site conditions, or of any obstruction that will prevent or adversely affect the contractor's ability to complete the Work.

### 3.2 EXISTING OR COMPLETED UTILITIES

- A. Unless shown to be removed protect active utility lines shown on the drawings or otherwise made known to the Contractor.
- B. Use care in moving machinery and equipment over existing or newly installed pipes and utilities during construction so as not to cause damage to completed work.
- C. Do not use power-driven equipment to excavate closer than 2 feet from any existing utility or structure. For work immediately adjacent to, or for excavation exposing an existing utility or other structure, use manual or light equipment excavation methods until the obstruction is cleared.
- D. Support uncovered pipes and other existing work affected by the excavation until they are properly supported by backfill.
- E. Take the necessary precautions to maintain services provided by all active utility lines in the construction area. If service is interrupted as a result of the Work, immediately restore service by repairing the damaged utility.
- F. If during construction active utility lines not shown on the drawings or otherwise made known to the Contractor are encountered or if active utility lines will interfere with the work, immediately notify the Engineer

**(END OF SECTION)**

**SECTION 01500  
TEMPORARY FACILITIES**

**PART 1 – GENERAL**

1.1 DESCRIPTION

A. Work included: Provide temporary facilities needed for the work including, but not necessarily limited to:

1. Temporary utilities such as heat, water and electricity.
2. Field office for the Contractor's personnel.
3. Sanitary facilities.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions and Sections in Division 1 of these specifications.
2. Permanent installation and hookup of the various utility lines are described in other Sections.

1.2 PRODUCT HANDLING

A. Maintain temporary facilities in proper and safe condition throughout progress of the work.

**PART 2 – PRODUCTS**

2.1 UTILITIES

A. Water:

1. Provide necessary temporary piping and water supply and, upon completion of the work, remove such temporary facilities.
2. The Owner shall provide water used in construction. The Contractor shall obtain a construction meter from the Owner.

B. Electricity:

1. Provide necessary temporary wiring and, upon completion of the work remove such temporary facility.
2. Provide and pay for electricity used in construction.

C. Heating: Provide and maintain heat necessary for proper conduction of operations needed in the work.

2.2 FACILITIES

A. Sanitary facilities:

**TEMPORARY FACILITIES**

1. Provide temporary sanitary facilities in the quantity required for use by all personnel.
2. Maintain in a sanitary condition at all times.

B. Strictly enforce their use.

### 2.3 PROJECT SIGNS

A. If required provide and maintain a project information sign with following information

1. Project Name
2. Project Cost
3. Anticipated Completion date
4. Contractor
5. Engineer
6. Owner
7. Members of City Council

B. EMPLOYMENT SIGN

C. SAFETY SIGN

## **PART 3 – EXECUTION**

### 3.1 MAINTENANCE AND REMOVAL

- A. Maintain temporary facilities and controls as long as needed for safe and proper completion of the work.
- B. Remove such temporary facilities and controls as rapidly as progress of the work will permit, or as directed by the Engineer.

**(END OF SECTION)**

**SECTION 01530  
TREE AND PLANT PROTECTION**

**PART 1 – GENERAL**

**1.1 SUMMARY**

A. Section includes:

1. All protected trees (as defined by City of Georgetown’s Article XII: Tree Protection Regulations) shall be protected unless indicated otherwise.
2. Protection of trees to remain; all trees which are not specifically indicated to be removed shall be protected and shall not be removed.
3. Repair of trees damaged during construction operations as specified or directed.
4. Penalties and mitigation for trees removed or damaged beyond repair.

**1.2 QUALITY ASSURANCE**

- A. Qualifications: Repair of tree damage shall be done by or under the supervision of a certified arborist who shall be a member in good standing of the International Society of Arboriculture.
- B. Pre-Construction Conference: Review extent of tree protection and measures to be employed with the Engineer and Owner.
  1. Trees to remain and applicable protection measures.
  2. Trees to receive temporary fence enclosures.

**PART 2 – PRODUCTS**

**2.1 MATERIALS**

- A. Acceptable Temporary Tree Protection Fencing Material (subject to local code requirements):
  1. Posts: Durable metal “T” or equivalent. Post shall be set to two feet below ground surface.
  2. Synthetic Fencing: Four foot high orange polyethylene laminar sheeting, specifically manufactured in bright, contrasting colors for temporary barricade use.

**PART 3 – EXECUTION**

**3.1 PROTECTION OF EXISTING TREES TO REMAIN**

- A. Protect existing trees to remain against injury or damage. Protect roots out to the drip line. Protect against:
  1. Unauthorized cutting or breaking of roots or limbs.
  2. Unnecessary skinning of roots, trunks, or branches.
  3. Smothering or compacting by stockpiling construction materials or excavation

materials within drip lines.

4. Excess equipment or vehicular traffic within drip line.
- B. Temporary Fence Enclosures:
1. All construction shall be prohibited within tree protection fence areas. Unauthorized personnel are to keep out of these areas. All clean up, grading, and grassing in the areas are by landscape contractor. Coordinate access to drainage structure construction with landscape architect.
  2. Maintain temporary fencing during full construction period. Remove fencing when no longer needed or when acceptable to Landscape Architect.

### 3.2 REPAIR OF TREES INJURED DURING CONSTRUCTION

- A. Repair damaged trees promptly to prevent progressive deterioration caused by damage.
- B. Repairs to trees damaged during construction shall be at Contractor's expense.
- C. Repair trees injured during construction according to standard arboricultural techniques recognized by International Society of Arboriculture.
- D. Remove trees damaged beyond satisfactory repair as determined by Engineer and Owner. Refer to PENALTIES AND MITIGATION in this section for loss of trees to remain.
- E. Temporarily cover roots exposed during construction with wet burlap to prevent roots from drying out. Cover roots with earth as soon as possible.
- F. Roots cut during construction: coat roots 1-1/2 inches diameter or larger with antiseptic paint.

### 3.3 PENALTIES AND MITIGATION

- A. Penalty values and mitigation shall be determined by Engineer based on each tree's species, preconstruction condition, and site importance.
- B. Trees designated to remain that are removed or damaged beyond repair shall be mitigated in accordance with City of Georgetown's Zoning Ordinance, Article XII.
- C. Species Substitution: Obtain Engineer's approval prior to substitution of tree species.
- D. Plant trees at location indicated by Engineer. Plant the trees according to methods recommended in writing by the International Society of Arboriculture for the applicable species and size to be planted; methods shall be submitted to and approved by the Engineer before planting will be authorized.
- E. Contractor shall notify Engineer of any protected tree(s) located within ten (10) feet of proposed excavation limits. If so authorized in writing by Engineer, unavoidable damage to such designated trees will be exempt from specified penalties and mitigation indicated in Subsection 3.3B above. All reasonable measures and precautions shall be exerted to preserve these trees including top pruning, nutrient injection or other applicable methods by an approved arborist; such work shall be considered to construction and not compensatory.

**(END OF SECTION)**

**SECTION 01640  
PRODUCT HANDLING**

**PART 1 – GENERAL**

1.1 DESCRIPTION

- A. Work included: Protect products scheduled for use in the work by means including, but not necessarily limited to, those described in this Section.
- B. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions and Sections in Division 1 of these specifications.
  - 2. Additional procedures also may be prescribed in other Sections of these specifications.

1.2 QUALITY ASSURANCE

- A. Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

1.3 MANUFACTURE'S RECOMMENDATIONS

- A. Except as otherwise approved by the Engineer, determine and comply with manufacture's recommendations on product handling, storage and protection.

1.4 PACKAGING

- A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.
  - 1. Maintain packaged materials with seals unbroken and labels intact until time of use.
  - 2. Promptly remove damaged material and unsuitable items from the job site and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.
- B. The Engineer may reject as non-complying such material and products that do not bear identification satisfactory to the Engineer as to manufacture, grade, quality and other pertinent information.

1.5 PROTECTION OF MATERIAL AND WORK

- A. General:
  - 1. Carefully and properly protect all materials of every description, both before and after being used in the Work in accordance with manufacturer's recommendations.
  - 2. Provide any enclosing or special protection from weather deemed necessary by the Engineer at no additional cost to the Owner.

- B. Partial payments under the Contract will not relieve the Contractor from responsibility.
  - 1. When materials and work at the site that have been partially paid for are not adequately protected by the Contractor, such materials will be protected by the Owner at the expense of the Contractor and no further partial payment thereon will be made.
  - 2. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the Owner.

#### 1.6 STORAGE

- A. Store all items of equipment, component parts, etc., in accordance with the manufacturer's recommendations or as may otherwise be necessary to prevent damage or deterioration of any sort.
- B. Electrical and control equipment:
  - 1. Store in a dry area protected from dust and humidity.
  - 2. Equipment can be protected by a weatherproof cover if shipped to the site no more than two (2) weeks prior to installation and energization.

#### 1.7 REPAIRS AND REPLACEMENTS

- A. In the event of damage, promptly make replacements and repairs to the approval of the Engineer and at no additional cost to the Owner.
- B. Additional time required to secure replacements and to make repairs will not be considered by the Engineer to justify an extension in the contract time or completion.

### **PART 2 – PRODUCTS (NOT APPLICABLE)**

### **PART 3 – EXECUTION (NOT APPLICABLE)**

**(END OF SECTION)**



**SECTION 01700  
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.
- B. Related work:
  - 1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. Other requirements for technical services are stated in other sections of these Specifications.
  - 3. Section 00620 – Contractors Affidavit.
  - 4. Section 01720 – Project Record Documents

1.2 SUBSTANTIAL COMPLETION

- A. The Contractor shall notify the Engineer that, in his/her opinion, the project is substantially complete. A written statement listing items complete shall be submitted.
- B. Upon receipt of the Contractor's notice, the Engineer shall make an observation 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 that comprised the Engineer's decision. The Engineer's decision shall be final.

1.3 FINAL OBSERVATION

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

1.4 RE-OBSERVATION

- A. Re-observation required due to failure by the Contractor to make previously noted corrections will be performed by the Engineer.
- B. Cost for such observations will be due to and payable by the Contractor at a rate equal to charges to the Owner for similar work.
- C. Re-observations 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. Spare parts and manuals.
  - 5. Evidence of payment and release to liens per General Conditions.
  - 6. Contractors Affidavit.

#### 1.6 FINAL PAYMENT

- A. Final payment to the Contractor will be made upon completion of 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 uncorrected work.
  - 4. Deductions for liquidated damages.
  - 5. Deductions for re-testing work.
  - 6. Deductions for re-observation.
  - 7. Deductions for shop drawing review.
  - 8. Adjusted contract sum.
  - 9. Previous payments.
  - 10. Amount Due.
- B. When required, the Engineer will prepare a contract change order for adjustments not previously made.

**PART 2 – PRODUCTS (NOT APPLICABLE)**

**PART 3 – EXECUTION (NOT APPLICABLE)**

**(END OF SECTION)**

**SECTION 01710  
CLEANING UP**

**PART 1 – GENERAL**

1.1 DESCRIPTION

The Contractor must employ at all times during the progress of its work adequate cleanup measures and safety precautions to prevent injuries to persons or damage to property. The Contractor shall immediately, upon request by the Engineer provide adequate material, equipment and labor to cleanup and make safe any and all areas deemed necessary by the Engineer.

1.2 RELATED WORK

A. Section 00700 GENERAL CONDITIONS

B. Section 01046 CONTROL OF WORK AND MATERIALS

**PART 2 – PRODUCTS (NOT APPLICABLE)**

**PART 3 – EXECUTION**

3.01 DAILY CLEANUP:

A. The Contractor shall clean up, at least daily, all refuse, rubbish, scrap and surplus material, debris and unneeded construction equipment resulting from the construction operations and sweep the area. The site of the work and the adjacent areas affected thereby shall at all times present a neat, orderly and workmanlike appearance.

B. Upon written notification by the Engineer, the Contractor shall within 24 hours clean up those areas, which in the Engineer's opinion are in violation of this section and the above referenced sections of the specifications.

C. If in the opinion of the Engineer, the referenced areas are not satisfactorily cleaned up, all other work on the project shall stop until the cleanup is satisfactory.

3.02 MATERIAL OR DEBRIS IN DRAINAGE FACILITIES:

A. Where material or debris has washed or flowed into or has been placed in existing watercourses, ditches, gutters, drains, pipes, structures, such material or debris shall be entirely removed and satisfactorily disposed of during progress of the work, and the ditches, channels, drains, pipes, structures, and work shall, upon completion of the work, be left in a clean and neat condition.

3.03 REMOVAL OF TEMPORARY BUILDINGS, STRUCTURES AND EQUIPMENT:

A. On or before completion of the work, the Contractor shall, unless otherwise specifically required or permitted in writing, tear down and remove all temporary buildings and structures it built; shall remove all temporary works, tools and machinery or other construction equipment it furnished; shall remove all rubbish from any grounds which it has occupied; shall remove silt fences and hay bales used for trapping sediment; and shall leave the roads and all parts of the property and adjacent property affected by its operations in a neat and satisfactory condition.

3.04 RESTORATION OF DAMAGED PROPERTY:

A. The Contractor shall restore or replace, when and as required, any property damaged by its work, equipment or employees, to a condition at least equal to that existing immediately prior to the beginning of operations. To this end the Contractor shall do as required all necessary highway or driveway, walk and landscaping work. Materials, equipment, and methods for such restoration shall be as approved by the Engineer.

3.05 FINAL CLEANUP:

A. Before acceptance by the Owner, the Contractor shall perform a final cleanup to bring the construction site to its original or specified condition. This cleanup shall include removing all trash and debris off of the premises. Before acceptance, the Engineer shall approve the condition of the site.

**(END OF SECTION)**

**SECTION 01720**  
**PROJECT RECORD DOCUMENTS**

**PART 1 – GENERAL**

1.1 DESCRIPTION

A. Work included:

1. Throughout progress of the Work, maintain an accurate record of changes in the Contract Documents, as described in Article 3.1 below.
2. Upon completion of the Work, deliver the recorded changes to the Engineer

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. Additional requirements for field engineering also may be described in other Sections of these Specifications. These include but are not limited to the following:

1.2 QUALITY ASSURANCE

- A. Delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff as approved by the Engineer.
- B. Accuracy of records shall be such that future search for items shown on the Project Record Documents may rely reasonably on the information provided under this Section of the Work

1.3 SUBMITTALS

- A. The Engineer's approval of the current status of Project Record Documents may be a prerequisite to the Engineer's approval of requests for progress payment and request for final payment under the Contract.
- B. Prior to submitting each request for progress payment, secure the Engineer's approval of the current status of the Project Record Documents.
- C. Prior to submitting request for final payment, submit the final Project Record Documents to the Engineer and secure his approval.

1.4 PRODUCT HANDLING

- A. Maintain the job set of Record Documents completely protected from deterioration and from loss and damage until completion of the Work and transfer to the Engineer.
- B. In the event of loss of recorded data, use all means necessary to again secure the data to the Engineer's approval
  1. Such means shall include, if necessary in the opinion of the Engineer, removal and replacement of concealing materials.
  2. In such case, provide replacements to the standards originally required by the Contract Documents

## **PART 2 - PRODUCTS**

### **2.1 JOB SET DOCUMENTS**

- A. Promptly following receipt of the Owner's Notice to Proceed, secure from the Engineer, at no charge to the Contractor, one complete set of all Documents comprising the Contract

## **PART 3 - EXECUTION**

### **3.1 MAINTENANCE JOB SET DOCUMENTS**

- A. Immediately upon receipt of the job set described in above paragraph titled "JOB SET DOCUMENTS", identify each of the Documents with the title, "RECORD DOCUMENTS- JOB SET".
- B. Preservation:
  1. Considering the Contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for examination, and the conditions under which these activities will be performed, devise a suitable method for protecting the job set to the approval of the Engineer.
  2. Do not use the job set for any purpose except entry of new data and for review by the Engineer.
  3. Maintain the job set at the site of Work as that site is designated by the Engineer.
- C. Field work and making entries on Job Set Drawings:
  1. Use erasable colored pencil, preferably red (not ink or indelible pencil) to delineate changes.
  2. Show by station number location of all fittings, manholes, valves, wyes locations, etc.
  3. Reference all fittings and valves at least to two aboveground items reasonably safe from being relocated and indicate such references on the drawings.
  4. Reference all pipelines from the center of the parallel roadway at least every 100 feet or where changes occur in the direction of the pipeline.
  5. Reference all bores from the center of the roadway to the beginning and end of the casing and ductile iron pipe. Depths of bury must also be provided.
  6. Reference all stream crossings and their distance from the center of the parallel roadway and the bridge or other obstruction. A profile of the stream crossing shall also be provided to show the depth of the pipeline under the stream.

7. Field measure and reference all fittings and valves to two aboveground items reasonably safe from being relocated and indicate such references on the drawings.
  8. Show location of electrical conduit, pull boxes, etc.
  9. Gravity sewers and storm sewers
    - a) Provide survey grade state plane Geographic Information System (G.I.S.) electronic data horizontal coordinates for each structure location.
    - b) Provide ground elevation, top elevation and invert elevations for each structure.
    - c) Comply with Section 01050.1
- D. Submittals:
1. Submit “marked-up” set of drawings to the Engineer
  2. Make any necessary additions as required by the Engineer

**(END OF SECTION)**

## **PROJECT TECHNICAL SPECIFICATIONS**

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**SECTION 2**  
**TEMPORARY FACILITIES AND CONTROLS**

2.1 CONSTRUCTION SITE PLAN

Contractor shall have open access to Constitution Park during the construction project. The contractor shall provide a site plan showing the location of barricades, fencing, and signage. This site plan must be approved by the City prior to construction. The temporary controls and safety measures represent the minimum required for the project. It is the Contractor's responsibility to provide safety measures and restrict public access to the site for the duration of the project.

2.2 TEMPORARY CONTROLS

2.2.1 Barricades

A. Erect and maintain temporary barricades to limit public access to hazardous areas. Whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic barricades will be required. Securely place barricades clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

2.2.2 Fencing and Life Safety Signage

A. Prior to the start of work, enclose those areas at the construction site which are not within the construction fence with a temporary safety fence, including gates and warning signs, to protect the public from construction activities. The safety fence shall be bright orange where it protects work areas, shall be made of high density polyethylene grid or approved equal plastic fence from recovered materials containing 60-100 percent recovered content level plastic, a minimum of 42 inches high, supported and tightly secured to steel posts located on minimum 8 foot centers. Remove the fence from the work site upon completion of the contract.

B. "Danger Construction Area" signs shall be posted along the site and on the construction fence at intervals not to exceed 20 ft. Maintenance of the warning signage shall be the sole responsibility of the Contractor.

2.2.3 Traffic Control (if required)

A. If required traffic control shall be in accordance with South Carolina Department of Transportation and *Manual of Uniform Traffic Control Devices* standards.

**\*\*\*END OF SECTION\*\*\***

### **SECTION 3 EXECUTION**

#### **3.1 EMPLOYEE PARKING**

Contractor employees will park privately owned vehicles in an area designated by the City.

#### **3.2 AVAILABILITY AND USE OF UTILITY SERVICES**

##### **3.2.1 Temporary Utilities**

Provide temporary utilities required for construction. Materials may be new or used, must be adequate for the required usage, not create unsafe conditions, and not violate applicable codes and standards.

##### **3.2.2 Utility Services**

Utility Services are not available at the construction site.

##### **3.2.3 Meters and Temporary Connections**

Not applicable

##### **3.2.4 Sanitation**

Provide temporary sewer and sanitation facilities that are self-contained units with both urinals and stool capabilities. Ventilate the units to control odors and fumes and empty and clean them at least once a week or more often if required by the owner. The doors shall be self-closing. Locate the facility behind the construction fence or out of the public view where possible.

##### **3.2.5 Fire Protection**

Provide temporary fire protection equipment for the protection of personnel and property during construction. Remove debris and flammable materials daily to minimize potential hazards.

##### **3.2.6 Dust Control**

It is the Contractor's responsibility to control dust generated by construction activities. Dust control methods and procedures must be approved by the owner's representative. Treat dust abatement on access roads with water sprinklers, or similar methods or treatment.

#### **CONTRACTOR'S TEMPORARY FACILITIES**

#### **3.3 Safety**

Protect the integrity of any installed safety systems or personnel safety devices. If entrance into systems serving safety devices is required, the Contractor must obtain prior approval from the Engineer. If it is temporarily necessary to remove or disable personnel safety devices in order to accomplish contract requirements, provide alternative means of protection prior to removing or disabling any permanently installed safety devices or equipment and obtain approval from the Engineer.

### 3.3.1 Storage Area

The Contractor's designated storage area will be determined by the City prior to construction. Do not place or store trailers, materials, or equipment outside the designated area unless such trailers, materials, or equipment are assigned a separate and distinct storage area by the Engineer away from the vicinity of the construction site but within the installation boundaries. Trailers, equipment, or materials must not be open to public view with the exception of those items which are in support of ongoing work on any given day. Do not stockpile materials outside the designated area in preparation for the next day's work. Park mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment within the designated area at the end of each work day.

### 3.3.2 Maintenance of Storage Area

Keep storage area in a state of good repair. Grassed or unpaved areas, which are not established roadways, will be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways, should the Contractor elect to traverse them with construction equipment or other vehicles; gravel gradation will be at the Contractor's discretion.

### 3.3.3 Security Provisions

A. Contractor shall provide adequate security at the Contractor's temporary facilities.

### 3.4 CLEANUP

Remove construction debris, waste materials, packaging material and the like from the work site daily. This includes any dirt or mud which is tracked onto paved or surfaced roadways.

### 3.5 RESTORATION OF AREA

Upon completion of the project remove the bulletin board, signs, barricades, haul roads, and any other temporary products from the site. After removal of trailers, materials, and equipment from within the fenced area, remove the fence that will become the property of the Contractor. Restore to the original or better condition, areas used by the Contractor for the storage of equipment or material, or other use. Gravel used to traverse grassed areas must be removed and the area restored to its original condition, including top soil and seeding as necessary.

**\*\*\*END OF SECTION\*\*\***

## SECTION 4 WOOD MARINE PILES

### GENERAL

Work under this section covers the supply and installation of timber piles for the bulkhead.

#### 4.1 SUBMITTALS

Engineer approval is required for all submittals.

- A. Preservative Treatment Certificate: Prior to commencement of work submit to the Engineer two (2) copies from an approved testing organization attesting that piles to be used in the work have been treated as required by this section. The Quality Mark of the American Wood Preservers Bureau (AWPB) affixed to piles will be accepted in lieu of a certificate.

#### 4.2 DELIVERY, STORAGE, AND HANDLING

Close-stack treated timber and lumber material in a manner that will prevent long timbers or pre-framed material from sagging or becoming crooked. Keep ground underneath and within 5 feet of all such piles free of weeds, rubbish, and combustible materials. Protect materials from weather using suitable coverings. Handle treated timber with ropes or chain slings without dropping, breaking outer fibers, bruising, or penetrating the surface with tools. Do not use cant dogs, peaveys, hooks, or pike poles. Protect hardware from corrosion. Piles shall be unloaded with slings or other equipment. Piles or treated timber shall not be dumped or dropped.

### PRODUCTS

#### 4.3 MATERIALS

##### 4.3.1 Piles

- A. Provide Southern Pine friction clean-peeled piles conforming to ASTM D25. Minimum butt diameter shall be as shown on the Drawings. Splices will not be permitted.
- B. Workmanship: Saw tips square with the axis of the pile. Saw vertical pile butts square with the axis of the pile. Trim or smoothly cut all knots and limbs flush with surface of the swell surrounding the knot. No strip of inner bark wider than 1/2 inch shall remain and sapwood shall not be cut through in clean-peeled piles.

- C. Preservative Treatment: Treat piles with Chromated Copper Arsenate (CCA) in accordance with AWWA Standards AWWA C1 and AWWA P5 – Saltwater Piles, and in compliance with AWPB MP4-80 (minimum retention of preservative 2.5 pcf).

## EXECUTION

### 4.4 INSTALLATION

#### 4.4.1 Pile Driving Equipment

- A. Handling: Inspect piles in the leads, and where the protective shell or treated wood is impaired, between cutoff and point not less than 10 feet below the ground, repair the piles in accordance with AWWA M4, unless the pile is damaged to such extent that it is rejected. Laterally support pile during driving, but do not unduly restrain from rotation in the leads. Where pile orientation is essential, take special care to maintain the orientation during driving. Take special care in supporting battered piles to prevent excess bending stresses in the pile. When necessary, place collars around the pile head to prevent brooming. Do not use cant hooks. Cut piles with pneumatic tools, by sawing, or by other means approved by the Engineer.
- B. Driving Piles: Drive without interruption to the elevation indicated on the Drawings.
- C. Driving Equipment:
1. Select and use a pile hammer of sufficient weight and energy to suitably install the specified pile without damage into the soils expected to be encountered. Place driving helmet or a cap and cushion block combination capable of protecting the head of the pile between the top of the pile and the ram to prevent impact damage to the pile. If block is damaged, split, highly compressed, charred or burned or has become spongy or deteriorated in any manner, replace with a new block. The helmet or block shall uniformly transmit energy to the pile with minimum loss of energy.

#### 4.4.2 Tolerances in Driving Piles

Drive piles with a variation of not more than 0.25 inch per foot of pile length from the vertical for plumb piles. Butts shall be within 4 inches of the location indicated. Piles shall not be forced into position. Re-drive piles that have heaved in excess of 8".

#### 4.4.3 Jetting of Piles

Jetting will not be permitted unless approved by Engineer.

#### 4.4.4 Fitting

Holes for bolts shall be of a size that will insure a driving fit. Where indicated, holes shall be counter-bored for the bolt heads and washers.

#### 4.4.5 Surface Treatment

After piles have been driven and cut off, all cut, bored and dapped surfaces shall be treated in accordance with AWPA M4.

#### 4.4.6 Piles Driven to Refusal

If piles are driven to refusal, do not cut off tops of driven piles without authorization of the Engineer.

### 4.5 PROTECTION

#### 4.5.1 Damaged Piles

Driving of piles shall not subject them to damage. Piles which are damaged, split, broomed, or broken by reason of internal defects or by improper driving below cutoff elevation so as to impair them for the purpose intended shall be removed and replaced; a second pile may be driven adjacent thereto at the Contractor's expense. Minor damaged areas of treated piles shall be treated in accordance with AWPA M4.

**\*\*\*END OF SECTION\*\*\***

**SECTION 5  
EARTHWORK**

5.1 SECTION INCLUDES

- A. Preparing Subgrades
- B. Excavating and backfilling
- C. Subsurface drainage

5.2 PROJECT CONDITIONS

5.2.1 Existing utilities

- A) Do not interrupt utilities serving facilities occupied by the Owner or others unless permitted in writing by the Engineer and then only after arranging to provide temporary utility services according to the requirements indicated:
- B) Notify the Engineer not less than two days in advance of proposed utility interruptions.
- C) Do not proceed with utility interruptions without the written permission of the Engineer.
- D) Contact utility-locator service for area where Project is located before excavating.

5.3 SOIL MATERIALS

5.3.1 General

Provide backfill with sufficient satisfactory soil material.

5.3.2 Definitions

- A) Backfill and Fill: Satisfactory soil materials.
- B) Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand.
- C) Drainage Fill: Drainage fill will consist of a washed evenly graded mixture of crushed stone, or crushed or uncrushed gravel, ASTM D 448, coarse aggregate, Size 57, with 100% passing 1-1/2 inch sieve and not more than 5 percent passing No. 8 sieve
- D) Satisfactory Soils: ASTM D 2487 soil classification groups GW, GP, SW, SP and/or a combination of these group symbols; free of rock or gravel larger than 3 inches in any

dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

E) Unsatisfactory Soils: ASTM D 2487 soil classification groups GC, SC, ML, CL, CH, OL, OH and PT or a combination of these group symbols.

F) Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of the optimum moisture content at the time of compaction.

### 5.3.3 Preparation

#### A. Protection of Existing facilities

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

#### B. Sediment and Erosion Control

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

## 5.4 EXCAVATION

### 5.4.1 Definitions

#### A) Unclassified Excavation:

1. Excavation to subgrade elevations regardless of the character of surface and subsurface conditions encountered, including rock, soil materials, and obstructions.
2. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

#### B) Classified Excavation: Excavation to subgrade elevations classified as earth and rock.

C) Earth excavation includes excavating pavements and obstructions visible on surface; underground structures, utilities, and other items indicated to be removed; together with soil, boulders, and other materials not classified as rock or unauthorized excavation.

1. Intermittent drilling; blasting, if permitted; ram hammering; or ripping of material not classified as rock excavation is earth excavation.
2. Rock excavation includes removal and disposal of rock.

## 5.5 APPROVAL OF SUBGRADE

A) Notify Engineer when excavations have reached required subgrade.



- B) If Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
  - 1. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
  
- C) Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer.

#### 5.6 STORAGE OF SOIL MATERIALS

- A) Stockpile borrow materials and satisfactory excavated soil materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

#### 5.7 BACKFILL

- A) Place and compact backfill in excavations promptly, but not before completing the following:
  - 1. Surveying locations of underground utilities for record documents (if applicable).
  - 2. Removing trash and debris.
  - 3. Removing temporary shoring and bracing.

#### 5.8 SOIL FILL

- A) Preparation: Remove vegetation, topsoil, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface before placing fills.
  
- B) Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
  
- C) Place and compact fill material in layers to required elevations as follows:
  - 1. Under grass and planted areas, use satisfactory soil material.

#### 5.9 SOIL MOISTURE CONTROL

- A) Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content.
  - 1. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
  - 2. Remove and replace, or scarify and air-dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

#### 5.10 COMPACTION OF SOIL BACKFILLS AND FILLS

#### 5.10.1 Placement in Lifts

Place backfill and fill soil materials in layers not more than 12 inches in loose depth. Contractor shall be aware of tie-rods and deadmen where applicable and will take all appropriate measures to protect these elements during the compaction process. Any tie-rods or deadmen damaged as the result of compaction operations will be replaced at no cost to the owner.

#### 5.10.2 Backfill

Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

#### 5.10.3 Compaction

Backfill behind sheet pile shall be compacted in 12" maximum lifts. Compaction of backfill shall be 95% based on ASTM D-698. Maintain heavy equipment at least four feet from the back of the sheet pile.

### 5.11 GRADING

#### A) General:

Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

### 5.12 PROTECTION

#### 5.12.1 Protecting Graded Areas

Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

#### 5.12.2 Repair of eroded grades during construction

Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace soil material to depth as directed by Engineer; reshape and re-compact.

#### 5.12.3 Settlement during construction

Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

5.12.4 Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

5.13 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A) Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

**\*\*\*END OF SECTION\*\*\***

## **SECTION 6 TIMBER SHEET PILE**

### **GENERAL**

Work covered under this section includes the timber sheet piling (also known as "sloppy-V), wales, and tie rods necessary for installing the bulkhead.

#### **6.1 Materials**

Sheet pile profile shall be manufactured with an interlocking feature that ensures adjacent panels maintain alignment. The sheeting material shall 3x8 Sloppy-V treated to CCA 2.5 PCF, southern yellow pine, Grade No. 1

#### **6.2.1 Wales**

Wales for support shall consist of 6 in. by 8 in. timbers treated to CCA 2.5 PCF, southern yellow pine, Grade No. 1

#### **6.2.2 Tie-Back System Anchors**

Tie-back system anchors used to tieback the bulkhead shall be as noted on the drawings and shall consist of 16 ft long 10" diameter timber piles spaced at 5 ft on center.

#### **6.2.3 Tie Rods**

Tie rods shall either be all stainless steel (SS304 or SS316) or all hot dip galvanized (A 136) steel (A 36). This includes tie rods, all-threads, couplers, washers, nuts, carriage bolts and lag screws. No mixing of steel types will be allowed.

#### **6.2.4 Backfill material.**

Backfill material placed behind the sheet pile shall be free draining and restricted to GW, GP, SW, or SP per ASTM D-2487.

#### **6.3 Delivery and Storage**

Upon delivery of materials to the site, contractor shall visually inspect all materials for defects or damage. If serious defect or damage is detected, contractor shall notify engineer immediately. Store bundled sheet pile on relatively level surface with a slight pitch to allow water to drain. Contractor

should not break bundled sheet pile until ready for immediate installation.

#### 6.4 Installation

6.4.1 Install driving guide, template, or wale system to aid in driving a straight and plumb wall. A “two level” template as well as front and rear wale/bracing system is strongly suggested for tough and/or deep driving situations.

6.4.2 Drive sheet pile (preferably in pairs) by “Driving in Steps” or “Gang Driving”. Direction of installation should be with the male side of the sheet pile when possible. Mandrel, helmet, or drive shoes may be required if driving through hard soil strata or obstructions. It is very important that contractor drive sheet pile to required embedment depth. Under no circumstances shall the contractor cut-off or install shorter sheet pile without written authorization from engineer or the owner. Adequate precautions shall be taken to insure that piles are driven plumb. Sheet pile shall not be driven more than 1/2-inch per foot out of plumb in the plane of the wall, nor more than 1/16-inch per foot “out” of plumb perpendicular to the plane of the wall, nor more than 1- inch per foot “in” of plumb perpendicular to the plane of the wall. Jetting of sheet pile will not be permitted.

6.4.3 Piles driven out of interlock with adjacent piles or otherwise damaged shall be removed and replaced by new piles at the contractors expense

6.4.4 Install drainage system and as noted on the plans.

6.4.5 Backfill behind sheet pile in level compacted lifts (12” maximum lift thickness). Compaction of backfill shall be 95% based on ASTM D-698. Maintain heavy equipment at least four feet from the back of the sheet pile.

6.4.6 Installed sheeting length is shown on the Contract Drawings.

**\*\*\*END OF SECTION\*\*\***

## **SECTION 7 GEOTEXTILES**

### **GENERAL**

This section covers the geotextile filter fabric used throughout the project.

#### **7.1 UNITS**

A. Method of Measurement: By the square yard including seams, overlaps, and wastage.

#### **7.2 DEFINITIONS**

A. Minimum Average Roll Value (MARV): Property value calculated as typical minus two standard deviations. Statistically, it yields a 97.7 percent degree of confidence that any sample taken during quality assurance testing will exceed value reported.

#### **7.3 SUBMITTALS**

7.3.1 Certification: The contractor shall provide to the Engineer a certificate stating the name of the manufacturer, product name, style number, and chemical composition of the filaments or yarns and other pertinent information to fully describe the geotextile.

#### **7.4 DELIVERY, STORAGE, AND HANDLING**

A. Geotextile labeling, shipment, and storage shall follow ASTM D4873. Product labels shall be color-coded to specifically identify each product and clearly show the Manufacturer's name, style name, and roll number.

B. Each geotextile roll shall be wrapped with a material that will protect the geotextile from damage due to shipment, water, sunlight, and contaminants.

C. During storage, geotextile rolls shall be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, flames including welding sparks, excess temperatures, and any other environmental conditions that may damage the physical property values of the geotextile.

### **PRODUCTS**

#### **7.5 MANUFACTURERS**

A. Carthage Mills  
4243 Hunt Road  
Cincinnati, OH 45242

7.6 MATERIALS

7.6.1. Geotextile:

The geotextile shall be a woven geotextile of 100% high-tenacity, monofilament polypropylene yarns which are woven into a stable network such that they retain their relative position.

The geotextile shall meet the requirements of Table 1. All numeric values in Table 1 except AOS represent MARV in the specified direction. Values for AOS represent maximum average roll values.

**TABLE 1 - SUBGRADE STABILIZATION GEOTEXTILE**

| <b>Mechanical Properties</b>             | <b>Test Method</b> | <b>Unit</b>             | <b>Minimum Average Roll Value</b> |
|--|--------------------|-------------------------|-----------------------------------|
| <b>STRENGTH</b>                          |                    |                         |                                   |
| Grab Tensile Strength                    | ASTM D4632         | lbs                     | 370 x 250                         |
| Grab Tensile Elongation                  | ASTM D4632         | %                       | 15                                |
| Puncture Strength                        | ASTM D4632         | Lbs                     | 120                               |
| <b>HYDRAULIC</b>                         |                    |                         |                                   |
| Flow Rate                                | ASTM D4491         | gal/min/ft <sup>2</sup> | 18                                |
| Permittivity                             | ASTM D4491         | sec <sup>-1</sup>       | 0.28                              |
| <b>SOIL RETENTION</b>                    |                    |                         |                                   |
| Apparent Opening Size (AOS) <sup>1</sup> | ASTM D4751         | U.S. Sieve              | 70                                |
| <b>SOIL INTERACTION</b>                  |                    |                         |                                   |
| UV Resistance (at 500 hours)             | ASTM D4355         | % strength retained     | 90                                |

<sup>1</sup> ASTM D4751: AOS is a Maximum Opening Diameter Value

7.6.2 The approved geotextile is as follows:

**Carthage 6%**

7.7 EXECUTION

7.7.1 PREPARATION

The installation site shall be prepared by clearing, grubbing, and excavation or filling the area to the design grade. This includes removal of topsoil and vegetation.

7.7.2 INSTALLATION

A. The geotextile shall be laid smooth without wrinkles or folds on the prepared subgrade in the direction of construction traffic. Adjacent geotextile rolls shall be overlapped, sewn or joined as required in the plans. Overlaps shall be in the direction as shown on the plans.

B. Clear the site of all large stones, roots, or other debris that might damage the geotextile. Excavate and shape the site to the lines and grades as directed by the Engineer and as shown on the contract drawings. Fill depressions or holes to ensure intimate contact between the geotextile and the prepared surface.

C. On curves, the geotextile may be folded or cut to conform to the curves. The fold or overlap shall be shingled in the direction of construction and held in place by pins or staples.

D. Prior to covering, the geotextile shall be inspected by to ensure that the geotextile has not been damaged during installation. Damaged geotextile, as identified by the Engineer, shall be repaired immediately. Cover the damaged area with a geotextile patch which extends an amount equal to the required overlap, or a minimum of three feet beyond the damaged area.

E. If placement of the backfill material causes damage to the geotextile, the damaged area shall be repaired as previously described above. The placement procedure shall then be modified to eliminate further damage to the geotextile from taking place.

**\*\*\*END OF SECTION\*\*\***



**SECTION 8  
HEAVY WEATHER PLAN**

**GENERAL**

The requirements of this section do not supersede requirements set forth by the United States Coast Guard or other agencies having jurisdiction. Where there is a difference in requirements, Contractor shall follow the more stringent guideline.

- 8.1 The Contractor shall generate a Heavy Weather Plan in the event of Hurricane or Storm Conditions. This plan will require the completion of specific tasks prior to the arrival of a hurricane / storm. The intent is to reduce the project site's exposure to damage, allowing return of service as rapidly as possible after the hurricane / storm passes.
- 8.2 The Contractor and subcontractors shall be in a general condition of readiness during the hurricane season which runs from June 1 to November 30 each calendar year.
- 8.3 In the event of heavy weather, Contractor shall not moor vessels, barges, boats or other waterborne equipment to existing or newly installed structures. Contractor shall not secure or tie down equipment to any existing or newly installed structures. Contractor shall move all materials, equipments, and waterborne vessels to a secure location.
- 8.4 Any damage to existing or newly installed structures as a result of failure by the Contractor to move or secure equipment, material, and vessels from the construction site during periods of heavy weather shall be repaired at no additional cost to the Owner.
- 8.5 Delays in the work due to heavy weather will result in a contract extension. The extension time will be negotiated with the Owner and shall be based on the severity of the storm event.

**PART 2 HEAVY WEATHER PLAN**

8.6 Contractor Responsibilities

- A. Contractor shall have heavy weather plan in place and notify superintendents, personnel and subcontractors of required actions during heavy weather. The heavy weather plan shall address actions that include but are not limited to:
  1. Contractors shall ensure personnel are aware of requirements for securing work site in preparation for storm (e.g., contractors, trailers, and equipment).
  2. Waste pick up
  3. Emptying storage or tool sheds
  4. Removing portable toilet facilities
  5. Removing potential missile hazards on site
  6. Moving machinery, equipment, vessels and barges to a secure location.

**\*\*\*END OF SECTION\*\*\***

**SECTION 9  
PIPE REPLACEMENT**

**GENERAL**

This section covers the replacement of the storm drain culverts penetrating the bulkhead. All work associated with the pipe culverts shall be done in accordance with SCDOT Standard Specifications and Supplemental Technical Specifications. The portion of SC-M-714 pertaining to reinforced concrete pipe is presented within this section.

**Supplemental Technical Specification for  
PERMANENT PIPE CULVERTS  
SCDOT Designation: SC-M-714 (08/09)**

This section contains specifications for the materials, construction, measurement, and payment for furnishing reinforced concrete pipe culverts (RCP) of the size, shape, type, and dimensions indicated on the plans and installing them to provide drainage structures at places designated on the plans or by the engineer in accordance with these specifications and true to the lines and grades shown on the plans or otherwise given by the engineer. This work includes the furnishing and installing of necessary tee, wye, elbow, and bend joints, and making connections to existing and/or new structures, including drilling and chipping as is necessary to complete the work.

**Materials (RCP)**

Use only materials specified herein for the several items that constitute the finished pipe culvert. Use only RCP from a qualified manufacturer as indicated on SCDOT Qualified Product List 69. Use only joint sealant specified on SCDOT Qualified Product List 69 with the pipe supplied.

On occasion, the OMR may accept RCP that is not stamped, provided certified tests results are submitted for review for each class and size of RCP to include but is not limited to the results from the three edge bearing test for hairline crack (0.01 inch) and the ultimate strength of RCP. All testing will be in accordance to the latest applicable SCDOT and AASHTO specifications.

Use circular RCP conforming to the applicable requirements of AASHTO M 170, for the specified diameters, shapes, types, and strength classes except for the modifications stated herein and on SCDOT Standard Drawings. Provide the Engineer with certification that pipe meets the requirements of AASHTO M 170. When a strength class is not specified in the plans, use minimum Class III pipe. Furnish pipe in manufactured lengths from 4 to 12 feet.

Make certain circular pipe meets or exceeds the reinforcement requirements of AASHTO M 170. Install standard AASHTO M 170 reinforced pipe within minimum and maximum fill heights shown on SCDOT Standard Drawings.

If special designed pipe is required (beyond the fill height limits of the SCDOT Standard

Drawings), have the manufacturer submit to the OMR and the appropriate Structures Engineer a design that meets or exceeds the loading criteria specified on SCDOT Instructional Bulletin 2007-04 for the design cover height for the project and the pipe material chosen.

Ensure that Portland cement conforms to the requirements of SCDOT Standard Specification Subsection 701.2.1.

The manufacturer may use fly ash and water-granulated blast-furnace slag in accordance with the following requirements:

- A. Fly ash meets AASHTO M 295 for Type F or C with a maximum Na<sub>2</sub>O of 1.5%. Water-granulated blast-furnace slag meets the requirements of AASHTO M 302, Grade 100 or better.
- B. Cement may be replaced by fly ash or water-granulated blast-furnace slag in accordance with AASHTO M 170.
- C. Fly ash is allowed only from sources listed on the latest edition of SCDOT Qualified Product List 3. Slag is allowed only from sources listed on the latest edition of SCDOT Qualified Product List 6. Certified mill test reports are furnished with each shipment to verify compliance requirements.
- D. The manufacturer provides a qualified OMR mix design in advance of batching. The submittal indicates the amount of cement removed and the material replacing it.
- E. Storage bins, conveying devices and weighing equipment and procedures to ensure accurate batching provided for each material (fly ash or slag) used.

Use only circular reinforcement as listed in AASHTO M 170 for standard pipe. Make certain that steel reinforcement conforms to the requirements of AASHTO M 32, AASHTO M 55, AASHTO M 221, or AASHTO M 225 for wire reinforcement as applicable. Use only steel that conforms with the parameters used in the pipe structural calculations supplied for SCDOT Standard Drawings. For custom pipe requiring deformed billet steel, use circular reinforcement that conforms to ASTM A 706 Grade 60. Ensure that steel conforming to ASTM A 706 comes from a source listed on SCDOT Qualified Product List 60.

Ensure that Rubber Gasket Joint Material meets the requirements of AASHTO M 315. Ensure that Preformed Flexible Joint Sealant meets the requirements of AASHTO M 198. Use only gasket sources that appear on SCDOT Qualified Product List 69 with the supplied pipe. Obtain qualification by furnishing the OMR a certified affidavit with test results made in a recognized laboratory confirming that the material meets AASHTO M 198 for preformed flexible joint sealant and AASHTO M 315 for rubber gaskets, along with complete instructions for installation of the material.

Make certain water meets the requirements of SCDOT Standard Specifications Subsection 701.2.11.

When lift holes or lugs are required in pipe, follow OSHA guidelines for handling pipe, and

manufacturer guidelines for plugging lift holes after installation.

When geotextile for drainage filtration is required, follow SCDOT Standard Specifications subsection 804.2.11 and SCDOT Standard Drawings.

Use tees, wyes, elbows, bends, reducers, and increasers with strength matching or exceeding the strength of the strongest pipe being connected and with the same joint profile of the connecting pipe. Use tees, wyes, elbows, bends, reducers, and increasers with joint profiles that match connected pipe.

For custom pipe, when noncircular (elliptical, shear stirrups, etc.) reinforcement is used,

1. Stabilize reinforcement by satisfactory means to ensure that it does not shift or rotate during the manufacturing process
2. Provide a stencil on the inside and outside shell indicating "CUSTOM PIPE NON CIRCULAR REINFORCEMENT TOP OF PIPE" and a mark "X" indicating exact top of pipe.
3. Provide a stencil on the inside and outside shell indicating designed fill height.
4. Provide to engineer and follow manufacturer guidelines for proper handling and installation instructions. Use installation procedure and materials that meet or exceed the limitations of this specification.

### **1.3.1**

#### **Construction Requirements (RCP) Handling and Storage (RCP)**

Inspect pipe before it is installed. Check pipe for proper markings and for signs of damage due to fabrication or shipment. Pipe may be rejected due to improper marking, incorrect pipe class, size, or strength. Pipe may also be rejected due to damage which may include, but is not limited to fractures or cracks passing through the wall or extending the entire length of the pipe, spalling, chips, breaks, or honeycombing that would adversely affect the strength or function of the pipe. Damage to the end of the pipe including broken tongues or grooves or ends that are not normal to the walls or centerline of the pipe that prevent satisfactory joint installation may also be cause for rejection. Defective or damaged joint sealant or gaskets may-require replacement, but are not cause for rejection of pipe that meets the above requirements

Handle and store pipe such that no damage occurs to the pipe. Unload the pipe at a site that is relatively flat and level, free of debris, and away from construction traffic. Stack belled pipes using blocking to avoid excess loading on the bells.

For pipe marked "NON CIRCULAR REINFOCEMENT TOP OF PIPE" follow manufacturer requirements for proper handling of pipe.

#### **Trench for Pipe (RCP)**

Lay the pipe in a trench where possible. Excavate trenches to the required grade and to a width sufficient to allow for proper jointing of the pipe and for thorough compaction of the structural backfill material under and around the pipe. Excavate the trench to a width which is the greatest of:

1.  $1.5 \times \text{Pipe OD} + 12"$
2.  $\text{Pipe OD} + 24"$
3.  $3 \times \text{Pipe OD}$  (only in sections where foundation improvement is required in the plans or by the engineer)
4. The width required to safely fit compaction equipment and personnel between the pipe and the trench walls.

When using controlled low strength material (CLSM) backfill, excavate the trench to a minimum width of the outside diameter of the pipe plus 12 inches. Make certain that the trench bottom gives full support to the pipe throughout its length.

Where pipe culvert will be placed in new embankments, first construct the embankments to a height of approximately 1/2 the diameter of the pipe above the top of the designated pipe or to such height as directed by the engineer. Construct the embankment for a distance of not less than 5 times the diameter of the pipe on each side of the pipe location, after which excavate the trench in the embankment as described in this section above.

When excavating for pipe culvert, if rock, hard pan, or other unyielding foundation material is encountered, excavate the hard unyielding material below the elevation of the bottom of the pipe to accommodate the required bedding thickness.

Follow OSHA's excavation regulations found in Subpart P of 29 CFR 1926 for safety requirements of trench excavations and protection systems. The Contractor shall employ an onsite Competent Person (as defined by SC OSHA as follows: one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. In order to be a competent person for the purpose of this standard one must have had specific training in, and be knowledgeable about, soils analysis, the use of protective systems, and the requirements of this standard) during all trenching operations. Provide the engineer with the name and contact information of the responsible Competent Person for each installation. If trench widths or wall slopes are changed due to safety requirements, backfill the trench outside of the vertical trench dimensions with materials meeting the minimum requirements of the embankment (or pipe structural backfill for shallow installations) as described in Subsection 1.3.6. Ensure that the support of the pipe and its embedment are maintained throughout the installation.

If trench boxes (shields, etc.) are required, follow 29 CFR 1926.652, trench box manufacturer, and industry standards for trench installations not exceeding 20 feet. When trench boxes are required for trenches exceeding 20 feet deep, the Contractor shall submit to the engineer designs, plans and supporting calculations for protective systems and shoring equipment sealed by a Professional Engineer who is licensed in South Carolina unless provided in the plans. When trench boxes are moved, the previously placed pipe and structural backfill shall not be disturbed. Move trench box in increments during the installation process to permit placement and compaction of structural backfill material for the full width of the trench while continuing to follow Subpart P of 29 CFR 1926 OSHA Standards. Voids that are created by movement of the trench box shall be filled and compacted with structural backfill described in Subsection 1.3.6. If necessary to prevent movement restrain the pipe using methods that do not damage the pipe.

If temporary shoring (sheet pile, timber shoring, mechanically stabilized earth, etc.) is required, the Contractor shall submit to the engineer designs, plans and supporting calculations for protective systems and shoring equipment sealed by a Professional Engineer who is licensed in South Carolina unless provided in the plans. If temporary shoring is to be removed, it shall be pulled out in vertical increments during the installation process to permit placement and compaction of fill material for the full width of the trench while continuing to follow Subpart P of 29 CFR 1926 OSHA Standards. If temporary shoring is to be left in place, provide the resident with location and description of all buried systems for inclusion in as-built plans.

Provide for temporary diversion of water or pumping as may be necessary in order to permit dry installation of the culvert. Keep trenches free from water until any joint sealant material has hardened sufficiently.

### **1.3.2.1 Foundation for Pipe (RCP)**

Unless noted otherwise in the plans or by the engineer, support pipe using foundation material that meets the minimum requirements of the roadway embankment.

Use the soil boring Standard Penetration Test SPT "N" values and recommendations of SCDOT Standard Drawings to determine if additional work is required to prepare an improved foundation. When an improved foundation is required, remove unstable material at least 1 diameter on each side of the pipe. Excavate deep enough to install nonwoven geotextile for drainage filtration and pipe foundation material as indicated on SCDOT Standard Drawings. If Type P1 biaxial geogrid is used with the foundation material and geotextile for drainage filtration, the additional foundation undercut may be reduced as indicated on SCDOT Standard Drawings. When pipe foundation material is indicated, use the same material that is used for the bedding and pipe structural backfill. Compact the pipe foundation material in accordance with methods used for pipe structural backfill. Provide trench suitable to accommodate site conditions and obstructions.

If poor material is encountered that was not indicated in the plans, contact the Preconstruction Regional Production Group Design Manager for instructions on foundation preparation.

**Bed for Pipe (RCP)**

For bedding material, use either:

1. Well graded A-1 (AASHTO M 145) soils
2. Screenings meeting A-1 (AASHTO M 145)
3. Macadam or Marine Limestone Graded aggregate base from Qualified Product List 2
4. Uniformly graded, coarse grained A-3 (AASHTO M 145) soils (Class 1 wrapped)
5. Uniformly graded angular stone as large as #5 stone (Class 2 wrapped, vibrated)

The same material must be used for bedding and structural backfill unless CLSM is used for structural backfill.

The materials marked as (wrapped) require geotextile wrap to control migration of fines into open voids. In all cases, use a geotextile that prevents the transmission of the smallest soil particles present in both the in-situ soil and the soil used for bedding and structural backfill. Wrap the entire bedding and backfill envelope and provide a minimum overlap of 2 feet at all geotextile splices. For shallow installations, provide a cover of 6 inches of soil between geotextile and hot mix asphalt.

A sample of the pipe bedding material will be taken at the beginning of pipe laying operations to verify the classification of materials used for bedding and pipe structural backfill. After the initial sample is taken, the sampling frequency will be for each 1,000 foot production lot or until the source or classification of the bedding/backfill material changes. These are minimum requirements that may be increased at the engineer's discretion.

Ensure that trenches are free of water when placing bedding.

Support the pipe by placing uncompacted bedding material above the stable foundation material. Use the larger of 6 inches or 10.0% of the nominal pipe outside diameter for the bedding thickness. Prepare bedding material at pipe bells and projected hubs (if present) to prevent excess loading and to provide uniform support in these areas.

Compact bedding material that is outside of the middle third pipe diameter in order to ensure proper support of the pipe. Ensure that bedding material outside the middle third of pipe is

compacted to a minimum of 95.0% of the maximum dry density when measured in accordance to SC-T-29. Ensure that compaction of bedding material does not cause the pipe to move.

Vibrate angular stone in place using a minimum of 2 passes with a vibratory plate tamp in lifts not to exceed 12 inches.

Do not use Controlled low strength material (CLSM), flowable fills or concrete for pipe bedding.

### **Laying Pipe (RCP)**

Begin pipe laying at the downstream end of the culvert with the bell or groove ends and outside laps upstream.

Make certain each section of pipe has a full firm bearing throughout its length, true to line and grade given. Make certain that all supports are uniform (without point loading from irregular backfill) and that bells have been properly accommodated. Remove pipe that settles before final acceptance or which is not in alignment and re-lay without extra compensation.

When custom pipe with noncircular reinforcement is used, install the pipe in such a position that the manufacture's marks designating the top of the pipe is not more than 5 degrees from the vertical plane through the longitudinal axis of the pipe or manufacturers guidelines, whichever is most vertical.

Before laying the pipe or during the pipe laying operations, construct adequate outfall ditches and inlets free of obstructions in order that proper drainage is provided.

When pipes are connected to drainage structures, install or cut pipe flush with inside face of drainage structure. When pipes are connected to end treatments such as slabs or headwalls, install or cut pipe flush with exposed face of end treatment. When pipe culverts are installed connecting to pipe of different material or connection details, use a standard drainage structure or designed interface as directed by the engineer. Where pipe culverts are constructed in conjunction with existing structures, make connections to the satisfaction of the engineer.

### **Joints (RCP)**

Use a joint material supplied with the pipe and made by a manufacturer listed on SCDOT Qualified Product List 69 that corresponds with the type of joint specified in the plans or provided by the pipe manufacturer. Submit joint material manufacturer installation recommendations to engineer before installation of pipe. Follow joint material manufacturer's recommendations for installation procedure. Follow pipe manufacturer's recommendations for maximum joint opening to meet tightness requirements specified in the plans or contract documents. Order pipe and appropriate joint material from pipe manufacturer. Install pipe using AASHTO M 198 joints unless specified in the plans, contract documents, or pay items.

### **AASHTO M 198 Preformed Flexible Joint Sealant**

Use a combination of pipe and joint material that meets performance requirements of the AASHTO M 198, including the laboratory 10\_psi pressure test. The laboratory test (which may be performed using vertical joints as indicated in AASHTO) is not intended to indicate field performance of the joint, but rather to indicate the proper sealant size to joint detail configuration as well as performance of the joint under ideal laboratory conditions. Carefully clean all dirt and foreign substances from the jointing surface of the groove end already laid and tongue end of the pipe being added. Allow jointing surfaces to dry completely before application of the joint material. If required by site conditions or manufacturer recommendations, apply an adhesive primer specified by the flexible sealant manufacturer. During cold weather, warm flexible sealant as directed by the manufacturer before application. Apply material in a single strip as specified by pipe manufacturer (typically from within 1 inch of the tongue end to approximately the middle of the tongue on pipe) for up to 48 inch diameter pipe. For pipe larger than 48 inch diameter, place

half of the sealant on the top side of the tongue end and the other half on the bottom side of the groove end of the two pipes being homed. Provide between 1" and 3" overlap of the installed joint sealant by laying the edges of the sealant side by side. Do not twist ends of sealant around each other or stack one end on top of the other. Leave protective paper on outside of flexible sealant to protect during pipe alignment. Apply enough flexible sealant to fill the annular joint space. Align the tongue and groove or bell and spigot ends of the pipes before homing (closing) the joint. Remove any remaining protective paper from outside surface of flexible sealant. Make sure that the flexible sealant is in contact with the entry taper around the entire circumference of the pipe. Confirm that the pipe is aligned properly. Seat the pipe completely before installing next pipe section.

#### **AASHTO M 315 Rubber Gasket Joint Material**

When specified in the plans, use a combination of pipe and joint material that meets performance requirements of the AASHTO M 315 (ASTM C 443), including the laboratory 13 psi pressure test. The laboratory test is not intended to indicate field performance of the joint, but rather to indicate the proper gasket size to joint detail configuration as well as performance of the joint under ideal laboratory conditions. Carefully clean all dirt and foreign substances from the jointing surface of the groove end already laid and tongue end of the pipe being added. Follow pipe manufacturer's recommendations for lubrication of joint and/or gasket. Fit the gasket on the tongue recess. Equalize the rubber gasket by running a smooth round object (such as a screwdriver shaft) between the gasket and the pipe. Complete this equalization procedure at least 3 times around the entire length of each gasket (see detail on standard drawing for reinforced concrete pipe). Ensure proper seating of the gasket before proceeding with installation. Align the tongue and groove ends of the pipes before homing (closing) the joint. Make sure that the gasket is in contact with the entry taper around the entire circumference and that the pipe is aligned properly. Seat pipe completely before installing next pipe section.

#### **Pipe Structural Backfill (RCP)**

Advise the engineer of the time Pipe Structural Backfill operations are expected to begin. If not properly advised, the engineer may require the excavation and reinstallation of the structural backfill material.

For structural backfill, use the same material as the pipe bedding (Subsection 1.3.3) unless controlled low strength material is used as described below. When materials are used that require geotextile wrap, cover the entire bedding and structural backfill envelope as described in Subsection 1.3.3.

Controlled low strength material (CLSM) and controlled density fill are flowable fills that may be used for structural backfill in the haunch area and above. Select a flowable fill mix design that can be excavated. When using CLSM backfill excavate the trench to a width that is a minimum of the outside pipe diameter plus 12 inches but no wider than the outside pipe diameter plus 20 inches. Do not use CLSM when placing perforated pipe.

When using CLSM ensure that the pipe is not displaced and does not float while using methods that do not damage the pipe.

Ensure that trenches are free of water when placing and compacting structural backfill.

Thoroughly compact the structural backfill material in layers not exceeding 6 inches of compacted material. The first lift must be sufficiently below the spring line such that the material can be worked into the haunch zone of the pipe. Perform compaction by the use of mechanical tampers with the assistance of hand tamps when necessary. Thoroughly compact the structural backfill



under the haunches of the pipe and ensure that the backfill soil is in continuous uniform contact with the side and joints of the pipe. Exercise sufficient care to prevent damaging or misaligning the pipe with the compaction equipment.

Install and compact structural backfill on both sides of pipe before adding the next lift of backfill material. Evenly distribute structural backfill on both sides of the pipe for its full length. Ensure that Pipe Structural Backfill process does not cause joint separation or displacement of the installed pipe.

Ensure that the compaction of structural backfill is a minimum of 95.0% of the maximum dry density when measured in accordance with SC-T-29.

The engineer will establish a compaction pattern for the contractor to follow during pipe backfill operations. The pattern will be in effect for production lots of 500 feet of pipe, until the source or classification of backfill material changes, site weather conditions change such as rain, or the compactive efforts being applied change. The compaction pattern will be established by allowing the contractor to apply a 6 inch lift in a 50 foot section until the material has been compacted to 95.0% of the maximum dry density for the structural backfill when measured in accordance with SC-T-29. The number of passes and the watering efforts applied to the material will be recorded and this pattern will be considered the compaction pattern.

For pipe smaller than 36 inches in diameter, the engineer will run a minimum of one verification compaction test at the springline of the pipe for each run of pipe between drainage structures or pipe ends. For pipe 36 inches in diameter and larger, a minimum of one test for each 18 inches of the pipe embedment zone height (including one at the pipe springline) for each run of pipe between drainage structures or pipe ends will be performed. This is a minimum frequency and should be increased at the engineer's discretion.

For all tests, insert the nuclear gauge probe to its full depth or within 2 to 3 inches of the bottom of the layer being tested, whichever is less. In the event of a non-conforming compaction measurement, the engineer will check the compaction of the previous lift by removing enough material to perform the verification test. If the second test passes, the contractor will continue the compaction efforts of the current layer until the verification test passes. In the event of 2 failing compaction tests within a single run of pipe (between drainage structures or pipe ends), remove the pipe structural backfill, clean trench and set a new compaction pattern at the engineer's discretion.

Vibrate angular stone backfills in place using methods that properly lock the angular stone in place around the pipe and do not damage the pipe, typically 2 passes with a vibratory plate tamp for each 12 inch lift.

Complete structural backfill installation up to the minimum cover elevation above the pipe for typical installations. When installing pipe under pavement and within 3 feet of the subgrade, complete structural backfill installation up to the top of the subgrade. Confirm that structural backfill material in pipe trench meets or exceeds the embankment compaction requirements before applying pavement structure.

#### **Cover Height (RCP)**

Ensure that the minimum and maximum cover is in accordance with the height of cover tables in the SCDOT Standard Drawings.

#### **Construction Loads (RCP)**

Fill height requirements may dictate that more fill is required during construction than for final design. In all cases, install backfill to the minimum construction fill height specified in the SCDOT Standard Drawings before driving heavy equipment over pipe. Maintain this minimum cover until heavy equipment usage is discontinued so that damage does not occur to the pipe. Install and

remove backfill required due to the construction loading on the pipe at no expense to SCDOT. Repair all damage or displacement at no expense to SCDOT.

**Structures and End Treatments (RCP)**

When not included in the plans, follow SCDOT Standard Drawings for connections of pipe to drainage structures, manholes, end treatment, or other buried structures.

Construct end treatment at each exposed end of pipe. Follow Pipe End Treatments Special Provision or SC-M-719 Pipe End Treatments and SCDOT Standard Drawings to determine required end treatment.

Unless shown otherwise in the plans, use a minimum end treatment of a straight pipe end with Class B or C riprap and geotextile for erosion control as shown in the SCDOT Standard Drawings. When specified in the plans, end-treatments such as pipe beveled end, concrete slab, straight headwall for pipe, pipe end structure, or pipe wingwall and apron system in accordance with SCDOT Standard Drawings or plan structure details.

When scour issues are observed on site, construct a cast in place concrete cut-off wall a minimum of two feet below the scour depth to protect the end treatment and pipe or as directed by the engineer.

**Cleaning Out Pipe (RCP)**

Thoroughly clean out the entire length of newly installed pipe culverts. No additional payment will be made for the cleaning out of newly installed pipe culverts. Pipes must be clean and accessible for inspection and acceptance.

**Trench Backfill for Expedited Construction (RCP)**

At the engineer's discretion or where otherwise noted, controlled low strength material (CLSM) may be used as structural backfill and to complete trench backfill for pipe installations in order to expedite the re-opening of the roadway to traffic. The decision should be based on traffic volume, safety and public inconvenience.

CLSM, also known as flowable fill, can be placed to a height not to exceed the subgrade elevation. The remaining pavement structure must be installed according to the pavement typical section. Measurements for payment will be made based on the neat line at a trench width (pipe outside diameter+ 12") for the pipe type being installed. Any material used beyond these dimensions is considered incidental to the pipe installation. CLSM shall be installed in accordance with manufacturer's recommendations to prevent pipe displacement and uplift during CLSM placement. When CLSM is specified in the plans or special provisions for completion of the trench backfill, CLSM in the pipe embedment zone will be included in the cost of the pipe, and CLSM above the pipe embedment zone will be paid for at the contract unit price for Controlled Low Strength Material.

When CLSM is specified by the engineer during construction, all CLSM used in the trench above the pipe springline will be paid for at the contract unit price for Controlled Low Strength Material.

**\*\*\*END OF SECTION\*\*\***

## **SECTION 10 TIMBERWORK**

### **PART 1 GENERAL**

Work under this section covers the supply and installation of timber members associated with the structural timber framing of the bulkhead.

#### **10.1 DELIVERY AND STORAGE**

- A. Open-stack untreated timber and lumber material on skids at least 12 inches above ground, in a manner that will prevent warping and allow shedding of water.
- B. Close-stack treated timber and lumber material in a manner that will prevent long timbers or preframed material from sagging or becoming crooked.
- C. Keep ground under and within 1.5 m or 5 feet of such piles free of weeds, rubbish, and combustible materials. Protect materials from weather.
- D. Handle treated timber with ropes or chain slings without dropping, breaking outer fibers, bruising, or penetrating surface with tools. Do not use cant dogs, peaveys, hooks, or pike poles. Protect timber and hardware from damage.

#### **10.2 QUALITY ASSURANCE**

##### **10.2.1 MSDS and CIS**

Provide Material Safety Data Sheets (MSDS) and Consumer Information Sheets (CIS) associated with timber pile preservative treatment. Contractor shall comply with all safety precautions indicated on MSDS and CIS.

##### **10.2.2 Certified Lumber**

Submit the certified lumber report from the manufacturer, for approval by the Engineer, which offers products complying with applicable AWWA Standards.

##### **10.2.3 Delivery Inspection**

Field inspect each treated timber member and each strapped bundle of treated lumber indicating the wording and lettering of the quality control markings, the species and the condition of the wood. Do not incorporate materials damaged in transport from plant to site. Inspect all preservative-treated wood, visually to ensure there are no excessive residual materials or preservative deposits. Material shall be clean and dry or it will be rejected due to environmental concerns.

### **PART 2 PRODUCTS**

#### **10.3 MATERIALS**

### **10.3.1 Lumber and Timbers**

#### **10.3.2 Solid Sawn**

Provide solid sawn lumber and timbers of stress-rated Southern Pine, and identified by the grade mark of a recognized association or independent inspection agency using the specific grading requirements of an association recognized as covering the species used. The association or independent inspection agency shall be certified by the Board of Review, American Lumber Standards Committee, to grade the species used.

#### **10.3.3 Preservative Treatment**

Fabricate lumber and timbers before preservative treatment. Each piece of treated lumber or timber shall be branded, by the producer, in accordance with AWWA M6. Treat wood to be used in contact with salt water or salt water splash in accordance with AWWA C2 (Material Subject to Marine Borer Exposure) with water-borne preservative. For wood outside of the splash zone, such as decking for the access walkway products must conform to AWWA C2 (For Above Ground, Soil Contact or Fresh Water Use) with water-borne preservative (AWWA P5) except that chromated zinc chlorides, pentachlorophenol-ammoniacal systems, and alkyl ammonium compounds will not be allowed. For handrails timber shall be in accordance with AWWA standards for treated wood products in contact with human skin. The Contractor shall be responsible for the quality of treated wood products.

#### **10.3.4 Hardware**

Provide hardware as specified on the Contract Drawings with necessary nuts and washers, timber connectors, drift pins, dowels, nails, screws, spikes, and other fastenings. Bolts and nuts shall conform to ASTM A 307. Provide bolts with washers under nut and head. Galvanized steel hardware shall be in accordance with ASTM A 123/A 123M or ASTM A 153/A 153M.

## **PART 3 EXECUTION**

### **10.4 CONSTRUCTION**

#### **10.4.1 Framing**

Cut and frame lumber and timber so that joints will fit over contact surface. Open joints are unacceptable. Shimming is not allowed, unless indicated.

Bore holes for rods or bolts with a bit 2 mm or 1/16 inch larger in diameter than rod or bolt. Bore holes for lag screws in two parts. Make lead hole for shank the same diameter as shank. Make lead hole for the threaded portion approximately two-thirds of the shank diameter. Bore holes in small timbers for boat or wire spikes with a bit of the same diameter or smallest dimension of the spike to prevent splitting. Counterbore for countersinking wherever smooth faces are indicated or specified.

#### **10.4.2 Bracing**

Align piles before bracing is placed. Provide bracing of sufficient length to provide a minimum distance of 8 inches between outside bolt and end of brace. Bracing shall bear firmly against timber to which secured. Place fillers to avoid bending the bracing more than one inch out of line when bracing bolts or other fastenings are drawn up tight. Built-up fillers will not be permitted. Make

filler a single piece of the same treated lumber as that in the brace, with a width of at least 6 inches and a length of at least 12 inches.

#### **10.4.3 Fastening**

Vertical bolts shall have nuts on the lower end. Where bolts are used to fasten timber to timber, bolt members together when they are installed and retighten immediately prior to final acceptance of contract. Provide bolts having sufficient additional threading to provide at least 3/8 inch per foot thickness of timber for future retightening.

### **10.5 FIELD TREATMENT**

#### **10.5.1 Timberwork**

Field treat cuts, bevels, notches, refacing and abrasions made in the field in treated piles or timbers in accordance with AWPA M4, MSDS and CIS. Wood preservatives are restricted use pesticides and shall be applied according to applicable standards. Trim cuts and abrasions before field treatment. Paint depressions or openings around bolt holes, joints, or gaps including recesses formed by counterboring, with preservative treatment used for piles or timber; and after bolt or screw is in place, fill with hot pitch or a bitumastic compound.

**\*\*\*END OF SECTION\*\*\***

**SECTION 11**  
**CONCRETE**

**PART 1 GENERAL**

Work under this section covers the supply and installation of cast-in-place concrete for the concrete sidewalk.

**11.1 REFERENCES**

**A. General:**

1. The following documents form part of the Specifications to the extent stated. Where differences exist between codes and standards, the one affording the greatest protection shall apply.
2. Unless otherwise noted, the referenced standard edition is the current one at the time of commencement of the Work.

**B. American Concrete Institute (ACI):**

- |    |           |  |
|----|-----------|--|
| 1. | ACI 211.1 | Proportioning Concrete Mixtures                        |
| 2. | ACI 301   | Specifications for Structural Concrete                 |
| 3. | ACI 303.1 | Specification for Cast-in-Place Architectural Concrete |
| 4. | ACI 305   | Hot Weather Concreting                                 |
| 5. | ACI 306   | Specifications for Cold Weather Concreting             |
| 6. | ACI 308   | Specifications for Curing Concrete                     |
| 7. | ACI 309   | Consolidation of Concrete                              |
| 8. | ACI 318   | Building Code Requirements for Structural Concrete     |

**11.2 SUBMITTALS**

- A. Concrete mix design data shall be submitted at least 10 days prior to the start of the specified work

**11.3 DELIVERY, STORAGE AND HANDLING**

Do not deliver concrete until vapor barrier, forms, reinforcement, embedded items, and chamfer strips are in place and ready for concrete placement. Protect materials from contaminants such as grease, oil, and dirt.

**11.3.1 Reinforcement**

Reinforcement and other metal items shall be protected from corrosion and shall be kept free from ice, grease, and other coatings that would destroy or reduce bond.

**PART 2 MATERIALS**

- A. Concrete: Class A concrete with minimum compressive strength of 3000 psi.
- B. Reinforcing steel: welded wire fabric per plans
- C. Portland Cement: Shall conform to ASTM C 150, Type I, IA, or IIA.
- D. Water: Potable
- E. Forms: Shall be constructed to conform, within the tolerances specified, to shapes, dimensions, lines, elevations, and positions of cast-in-place concrete members indicated. Forms shall be supported braced, and maintained sufficiently rigid to prevent deformation under load.

### PART 3 EXECUTION

#### 11.4 EXAMINATION

Do not begin installation until substrates have been properly constructed; verify that substrates are true and plumb. check field dimensions before beginning installation. If dimensions vary too much from design dimensions for proper installation, notify Engineer and wait for instructions before beginning installation.

#### 11.5 PREPARATION

Surfaces against which concrete is to be placed must be free of debris, loose material, standing water, snow, ice and other deleterious substances before placing concrete. Standing water shall be removed without washing over freshly deposited concrete.

#### 11.6 INSTALLATION

Concrete shall not be placed when the temperature is below 40 degrees F, nor during rain, sleet, or snow. Protection materials shall be stored at project site for use in the event of unforeseen weather changes after the start of concrete placing operations.

##### 11.6.1 General Placing Requirements

- A. Concrete shall be deposited continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause formation of seams or planes of weakness within the section. concrete shall be deposited as nearly as practical in its final position to avoid segregation due to re-handling or flowing.
- B. Concrete which becomes non-plastic and unworkable or does not meet quality control limits or has been contaminated by foreign material shall not be used.
- C. Concrete shall be consolidated by mechanical vibrating equipment so that concrete is worked around reinforcement and other embedded items and into corners.

- D. Construct headwall/collar complete in place to the dimensions, lines and grades as shown on Drawings.
- E. Place reinforcing steel to conform to details shown on the Drawings. Provide a positive means for holding steel cages in place during concrete placement. Welding of reinforcing steel is not permitted unless noted on the Drawings. The maximum variation in reinforcement position is plus or minus 10 percent of wall thickness or plus or minus 1/2 inch whichever is less. Regardless of variation, the minimum cover of concrete over reinforcement as shown on the Drawings shall be maintained.
- F. Chamfer exposed edges unless otherwise indicated on Drawings.

#### 11.7 CURING

- A. Freshly placed concrete shall be protected from premature drying and cold or hot temperature and shall be maintained without drying at a relatively constant temperature for the period of time necessary for hydration of cement and proper hardening of concrete.
- B. Initial curing shall start as soon as free water has disappeared from surface of concrete after placing and finishing. Concrete shall be kept moist for a minimum of 72 hours.
- C. Final curing shall immediately follow initial curing and before concrete has dried. Curing shall be accomplished by moist curing, by moisture-retaining cover curing, and by combinations thereof.

**\*\*\*END OF SECTION\*\*\***



**SECTION 12  
INLINE CHECK VALVE**

**PART 1: GENERAL**

12.1 SUBMITTALS

A. Submit product literature that includes information on the performance and operation of the valve, materials of construction, dimensions and weights, elastomer characteristics, headloss, flow data and pressure ratings.

B. Upon request, provide shop drawings that clearly identify the valve materials of construction and dimensions.

12.2 QUALITY ASSURANCE

A. Supplier shall have at least twelve (12) years experience in the design and manufacture of “CheckMate™” style elastomeric check valves.

B. Manufacturer shall have designed, fabricated and have at least five (5) current installation of a “CheckMate” style elastomeric check valves in the 72” (1800mm) size. Manufacturer must provide documentation, including project name, location, and references.

C. Manufacturer shall have conducted independent hydraulic testing to determine headloss, jet velocity and vertical opening height characteristics on a minimum of three

(3) sizes of CheckMate Valves ranging from 6” (150mm) through 24” (600mm). The testing must have been conducted for free discharge (pressurized and open channel flow discharging to atmosphere) and submerged conditions.

**PART 2: PRODUCTS**

12.3 CHECKMATE ULTRAFLEX ELASTOMERIC CHECK VALVES

A. Check Valves are to be all rubber and the flow operated check type with slip-in cuff connection. The entire CheckMate Ultraflex Valve shall be ply reinforced throughout the body, saddle and bill, which is cured and vulcanized into a one-piece unibody construction. A separate valve body or pipe used as the housing is not acceptable. The valve shall be manufactured with no metal, mechanical hinges or fasteners, which would be used to secure any component of the valve to a valve housing. The port area of the saddle shall contour into a circumferential sealing area (the “bill”) that is concentric with the pipe which shall allow passage of flow in one

direction while preventing reverse flow. The entire valve shall fit within the pipe inside diameter. The saddle area of the valve must be flat, not conical, and integral with the rubber body above centerline in order to not produce any areas or voids that can collect or trap debris. The valve must be easily installed in pipes with poor end condition without the need to modify or utilize the headwall or structure to seal and anchor the valve. Once installed, the CheckMate Ultraflex Valve shall not protrude beyond the face of the structure or end of the pipe.

B. The CheckMate Ultraflex Valve shall incorporate multiple concave grooves molded integrally into the flat saddle wall thickness extending longitudinally a minimum of 80% of the length of the saddle to reduce opening resistance and reduce headloss.

C. The CheckMate Ultraflex Valve shall incorporate a custom shaped notch in the end of the bill to reduce cracking pressure. The notch shall be at the invert/bottom of the bill and symmetrical about the valve centerline. The longitudinal length of the notch shall be no greater than half the length of the bill.

D. The outside diameter of the upstream and downstream sections of the valve must be circumferentially in contact with the inside diameter of the pipe.

E. Slip-in style CheckMate Ultraflex Valves will be furnished with a set of stainless steel expansion clamps. The clamps, which will secure the valve in place, shall be installed in the upstream or downstream cuff of the valve, depending on installation orientation, and shall expand outwards by means of a turnbuckle. Each band shall be pre-drilled allowing for the valve to be pinned and secured into position in accordance with the manufacturer's installation instructions.

F. Manufacturer must have flow test data from an accredited hydraulics laboratory to confirm pressure drop and hydraulic data.

E. Company name, plant location, valve size patent number, and serial number shall be bonded to the check valve.

#### 12.4 FUNCTION

A. When line pressure exceeds the backpressure, the line pressure forces the bill and saddle of the valve open, allowing flow to pass. When the backpressure exceeds the line pressure, or in the absence of any upstream or downstream pressure, the bill and saddle of the valve is forced closed, preventing backflow.

#### 12.5 MANUFACTURER

A. All valves shall be Series CMUF-SL slip-in CheckMate Ultraflex Valves as manufactured by Tideflex Technologies<sup>®</sup>, A Division of Red Valve Company, Carnegie, PA 15106. All valves shall be manufactured in the U.S.A.

**PART 3: EXECUTION**

12.6 INSTALLATION

- A. Valve shall be installed in accordance with manufacturer's written Installation and Operation Manual and approved submittals.

12.7 MANUFACTURER'S CUSTOMER SERVICE

A. Manufacturer's authorized representative shall be available for customer service during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.

B. If specified, the manufacturer shall also make customer service available directly from the factory in addition to authorized representatives for assistance during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.

**\*\*\*END OF SECTION\*\*\***

# **GEOTECHNICAL REPORT**



Exploration Findings - Georgetown Bulkhead

Georgetown, South Carolina

Client: McSweeney Engineers

PILLC No.: 17-106

September 30, 2017



## TEST METHODS:

PalmettoINSITU, LLC executes exploration projects in general accordance with published American Society for Testing and Material (ASTM) procedures; the United States Department of Transportation (USDOT), Federal Highway Administration (FHA), National Highway Institute (NHI) recommendations; and within generally acceptable industry practices. These include but are not limited to:

- ⇒ **ASTM D5778:** *Standard Test Method for Performing Electronic Friction Cone and Piezo Cone Penetration Testing of Soils (CPTu)*
- ⇒ **ASTM D7400:** *Standard Test Methods for Downhole Seismic Testing (SCPTu)*
- ⇒ **ASTM D6635:** *Standard Test Method for Performing the Flat Plate Dilatometer (DMT)*
- ⇒ **International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE):** *The Flat Dilatometer Test (DMT) in Soil Investigations: A Report by the ISSMGE Committee TC16*
- ⇒ **USDOT, FHA and NHI:** *Subsurface Investigation Publication No. FHWA-NHI-05-035. July 2006.*

## INSTRUMENTATION :

PalmettoINSITU, LLC Performs Daily Inspections of its Instrumentation as part of its Quality Assurance (QA) Program.

*Each Instrument or Critical Measuring Gauge is calibrated as prescribed within one or more of the aforementioned Standards by its manufacturer; an American National Standard Institute (ANSI); or an International Standard (ISO) Laboratory Capable of testing to ISO/IEC 1705:2005 or a laboratory capable of meeting Standard Reference Materials of the National Institute of Standards and Technology (NIST), a non-regulated agency of the United States Department of Commerce.*

- ⇒ **All of PalmettoINSITU's Cone Penetrometer (SCPTu and CPTu) Probes are:**
  - Manufactured by Vertek, a division of Applied Research Associates, Inc.(ARA);
  - Vertek (VTK) series;
  - 1.75 inches (15 cm<sup>2</sup> tip area);
  - And, are Capable of:
    - Measuring Pore Water Pressure at the U<sub>2</sub> Position;
    - Performing Downhole Seismic Testing using Tri-Axial Geophones and;
    - Recording the Deviation from Vertical (inclination) about the cone's X and Y-Axis
- ⇒ **Cone Penetrometer Data Acquisition Systems:**
  - Are Manufactured by Vertek, a Division of ARA, Inc. and;
  - Are Vertek (VTK) Series.
- ⇒ **Marchetti Flat Plate Dilatometer (DMT) Tooling**
  - Provided by GPE, Inc
  - Membranes are H2.5, Unless Otherwise Specified

PalmettoINSITU, LLC Provides Specialized Data that which is only to be Interpreted by Qualified Professionals.



## **RIG DESCRIPTION AND GENERALIZED DATA ACQUISITION PROCESS:**

The geotechnical exploration program is performed using an S4-Scorpien, Manufactured by Vertek. The S4-Scorpien:

### ⇒ **Rig Description:**

- Anchors into the soil to achieve a thrust which can exceed 20 tons;
- Using anchors that may range in diameter from 300 to 500 cm;
- Which attach to hydraulically telescoping Anchors
- Uses a Bobcat T770 mini track loader with rubber tracks to convey and for hydraulical power;
- Has a combined weight, including Bobcat T770, and drill string, of approximately 12,000 pounds

### ⇒ **Generalized Data Acquisition Process:**

*The Processes Following Assumes the Instrument has Met its Pre-Test Inspection and Baseline Requirements.*

- All tests are pushed to the a target depth, the rigs maximum reaction, equipment failure or maximum lateral support of the push rods.
- The CPT probe or DMT blade is connected to its required control system by pre-stringing a pre-determined length of in-situ rods.
- CPTu data is acquired at a push rate of two centimeters per second. The tip, sleeve friction, pore water pressure and inclination are automatically recorded with relation to depth.
- Downhole Seismic Data is acquired at approximately one meter intervals, unless otherwise specified.
- Dissipation data is acquired at a logarithmic rate with regards to dynamic pore water pressure and depth.
- DMT data is collected at one foot intervals. Delta-A and Delta-B, both pre- and post-sounding are determined. The Z-reading, if necessary, is noted. A-readings and B-Readings are both recorded with respect to depth.

## **SIGNIFICANT SOFTWARE UTILIZED FOR DATA REDUCTION, LOG AND GRAPH PRODUCTION :**

*Finalized Output is Routinely Published using RAPIDCPT. However, PalmettoINSITU, LLC may use other Software if Required. The Client will be Notified in Advance if such a Situation Occurs.*

### ⇒ **Bentley Systems, Inc. Supplied:**

- *gINT V8i SS2 Version 08.30.04.285 (gINT V8i Professional)*

### ⇒ **Vertek Provided:**

- *Coneplot version 2.0.4 (Beta)*
- *CPT Processor version 1.7.19971*

### ⇒ **Dataforensics, LLC**

- *gINT add-on: RAPIDCPT version 4.2.2.0*

[PalmettoINSITU, LLC Provides Specialized Data that which is only to be Interpreted by Qualified Professionals.](#)



**SIGNIFICANT SOFTWARE UTILIZED FOR DATA REDUCTION, LOG AND GRAPH PRODUCTION (CONTINUED):**

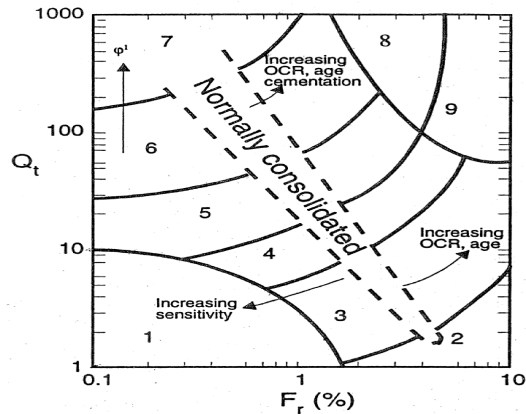
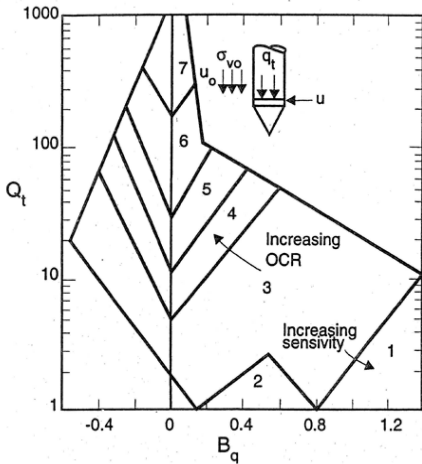
⇒ **Dataforensics, LLC** (Continued):

- The application utilizes the Fuzzy CPT Soil Classification (Zhang & Tumay, 1999) algorithm developed for the classification software created by Louisiana Transportation Research Center (LTRC) under Project No. 98-3GT (Titi & Abu-Farsakh, 1999); its use in this application was developed with the support and assistance under LTRC Project No. 10-2GT, Geotechnical Information Database, Phase 2

**RAPIDCPT DEFAULT VARIABLES:**

|   |                 |                     |               |
|---|-----------------|---------------------|---------------|
| <b>Min Drained Threshold Zone</b>           | <b>5</b>        | <b>Dr in M Calc</b> | <b>Dr (1)</b> |
| <b>Max Drained Threshold Zone</b>           | <b>7</b>        | <b>Nu</b>           | <b>7</b>      |
| <b>Drained Threshold Soil Behavior Type</b> | <b>Qt vs Fr</b> | <b>NkT</b>          | <b>15</b>     |
| <b>Phi in K0 Calc</b>                       | <b>Phi' (1)</b> | <b>Nk</b>           | <b>15</b>     |
| <b>OCR in K0 Calc</b>                       | <b>OCR (1)</b>  | <b>Nc</b>           | <b>20</b>     |

**NORMALIZED SOIL BEHAVIOR TYPES - ROBERTSON & CAMPANELLA (1990):**



**SOIL BEHAVIOR TYPE (SBT) MATERIAL LEGEND:**

|  |                                   |  |  |  |                                   |
|--|-----------------------------------|--|--|--|-----------------------------------|
|  | 1 – Sensitive, Fine Grained Soils |  | 4 – Silt Mixtures-Clay Silt to Silty Clay  |  | 7 – Gravelly Sand to Sand         |
|  | 2 – Organic Soils, Peats          |  | 5 – Sand Mixtures-Silty Sand to Silty Silt |  | 8– Very Stiff Clay to Clayey Sand |
|  | 3 – Clays-Clay to Silty Clay      |  | 6 – Sands-Clean Sand to Silty Sand         |  | 9 – Very Stiff Fine Grained Soils |

Robertson and Campanella: 1990

PalmettoINSITU, LLC Provides Specialized Data that which is only to be Interpreted by Qualified Professionals.





Georgetown Bulkhead  
 Georgetown, SC  
 Project Number :17-106

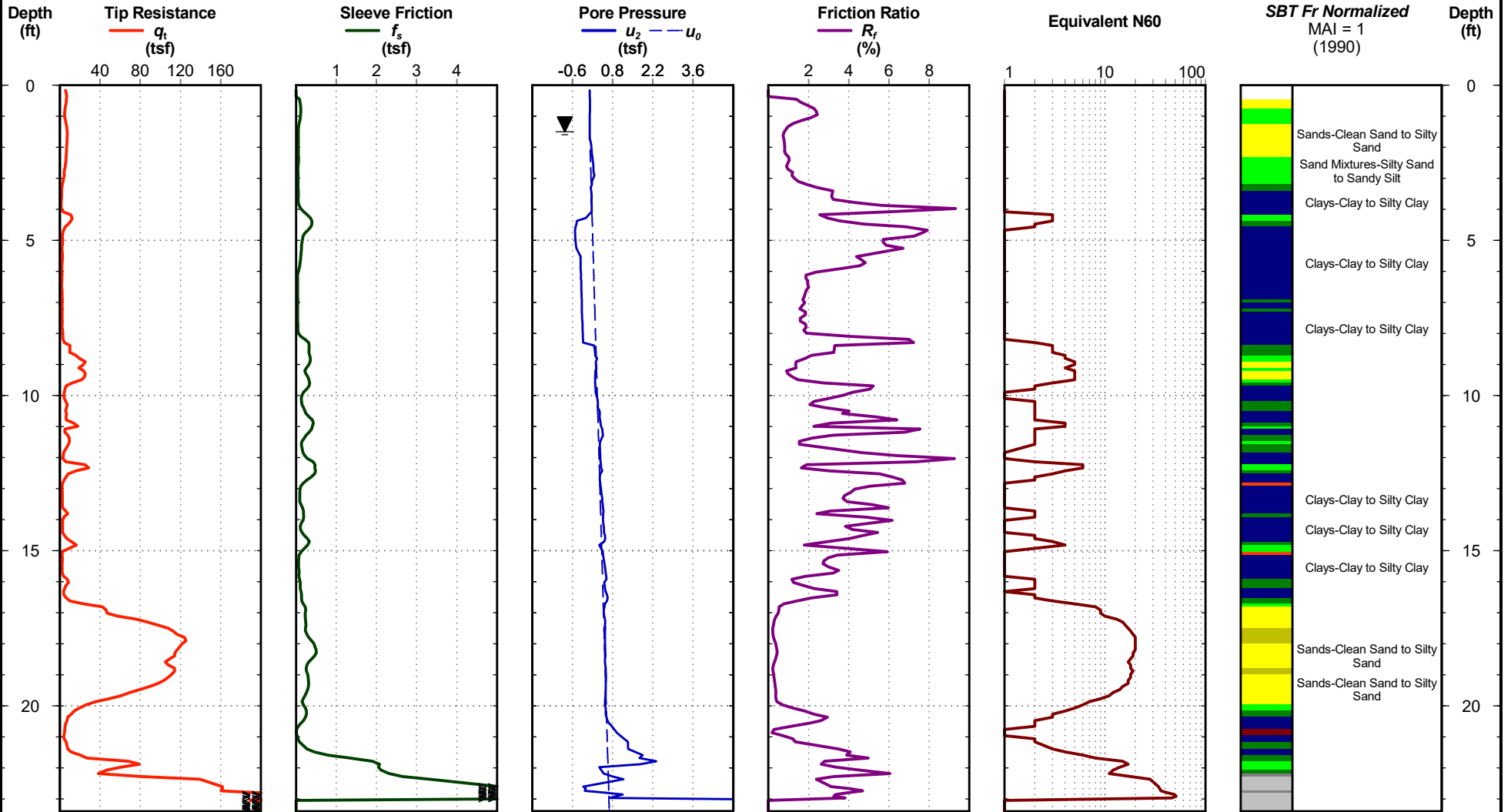
# Cone Penetration Test

C-1

Date: Sep. 29, 2017  
 Estimated Water Depth: 1.5 ft  
 Rig/Operator: M. Cox | J. Croom

Northing:  
 Easting:  
 Elevation:

Total Depth: 23.4 ft  
 Termination Criteria: Maximum Reaction Force  
 Cone Size: 1.75



CPT REPORT - STANDARD GEORGETOWN BULKHEAD.GPJ\_DF STD US LAB.GDT\_9/30/17


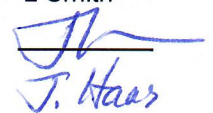
C-1

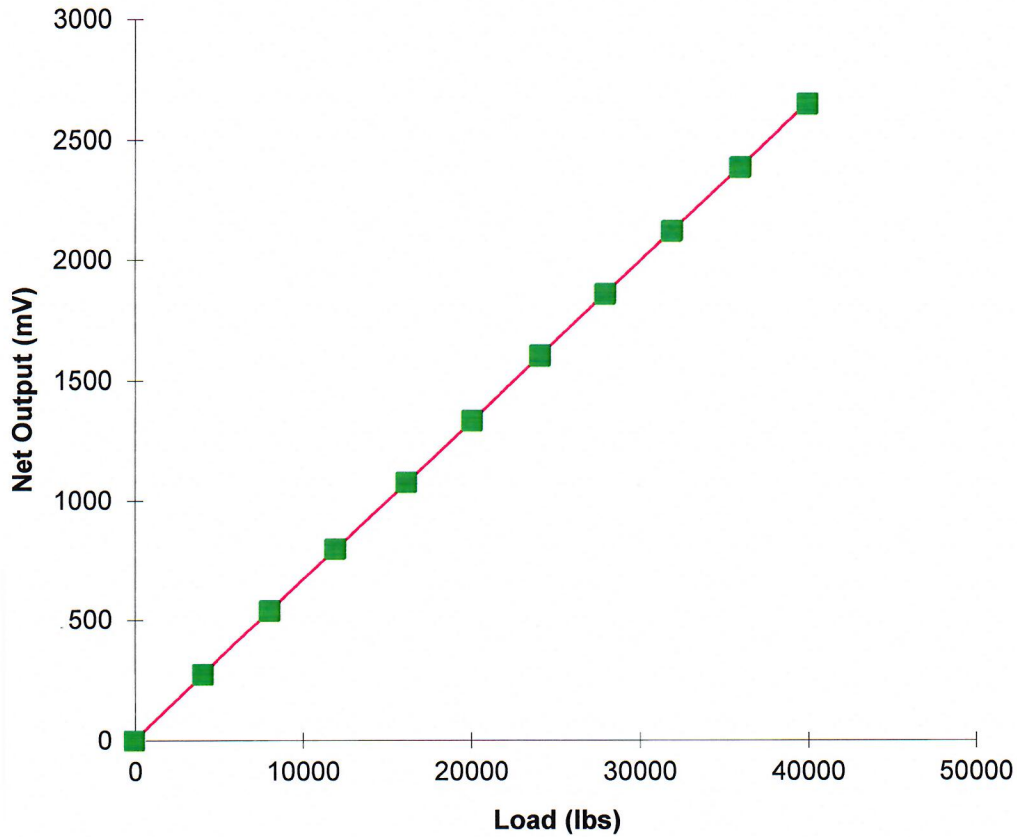


250 Beanville Road  
Randolph, Vermont 05060  
phone: (800)639-6315 fax: (802)728-9871

Cone Penetrometer Calibration  
**Digital Cone Tip**

Cone Serial No.: 4444.149  
Rated Range: 50000 lbs  
Load Reference: Ref LC-SN: 390752A  
Ref. DVM: MY47029221  
Ref. Excitation: 9.887 V<sub>dc</sub>

Date: 20-Mar-17  
Calibrated By:   
L. Smith  
Approved By:   
J. Haas



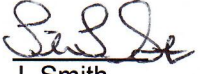
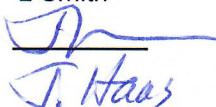
Cal Factor: 66.387E-3 mV/lbs 52.000E-3 nominal  
R<sup>2</sup>: 1.00000  
Nonlinearity: 0.16  
Zero Load Output: 206.984E-3 mV

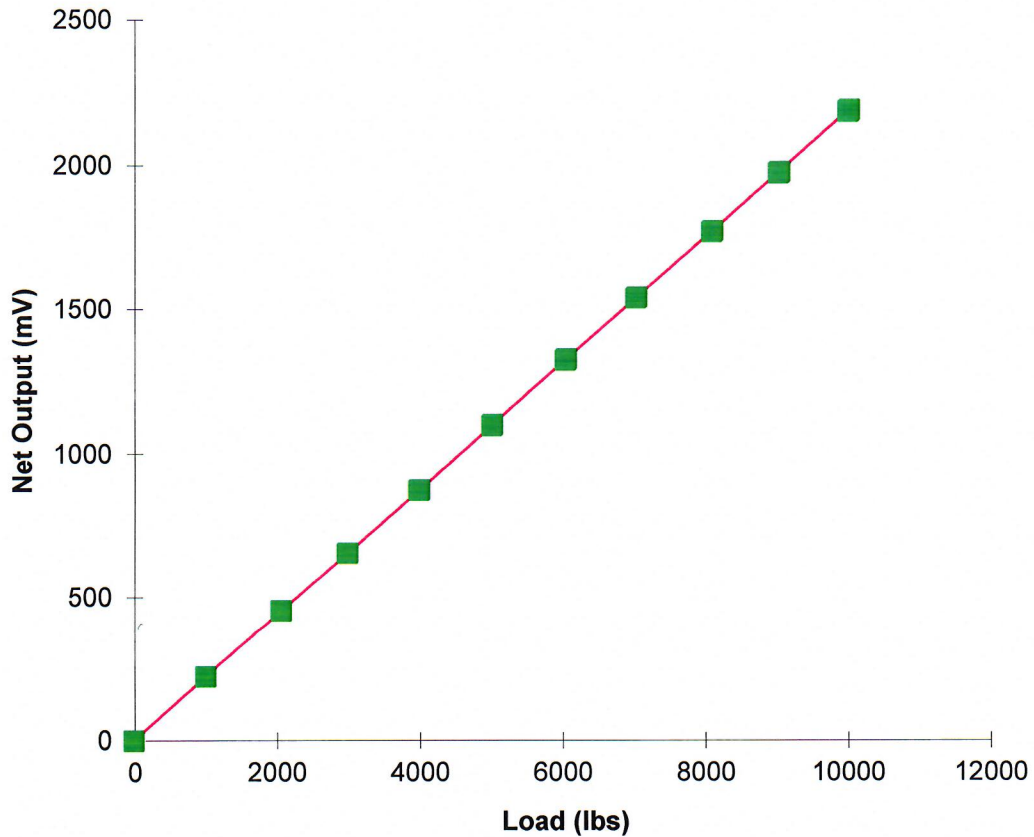


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Randolph, Vermont 05060  
phone: (800)639-6315 fax: (802)728-9871

**Cone Penetrometer Calibration**  
**Digital Cone Sleeve**

Cone Serial No.: 4444.149  
Rated Range: 10000 lbs  
Load Reference: Ref LC-SN: 390752A  
Ref. DVM: MY47029221  
Ref. Excitation: 9.886 V<sub>dc</sub>

Date: 20-Mar-17  
Calibrated By:   
L Smith  
Approved By:   
J. Haas



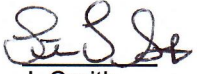
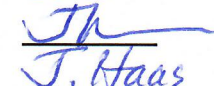
**Cal Factor:** 218.749E-3 mV/lbs    212.000E-3 nominal  
**R<sup>2</sup>:** 1.00000  
**Nonlinearity:** 0.13  
**Zero Load Output:** 271.799E-3 mV

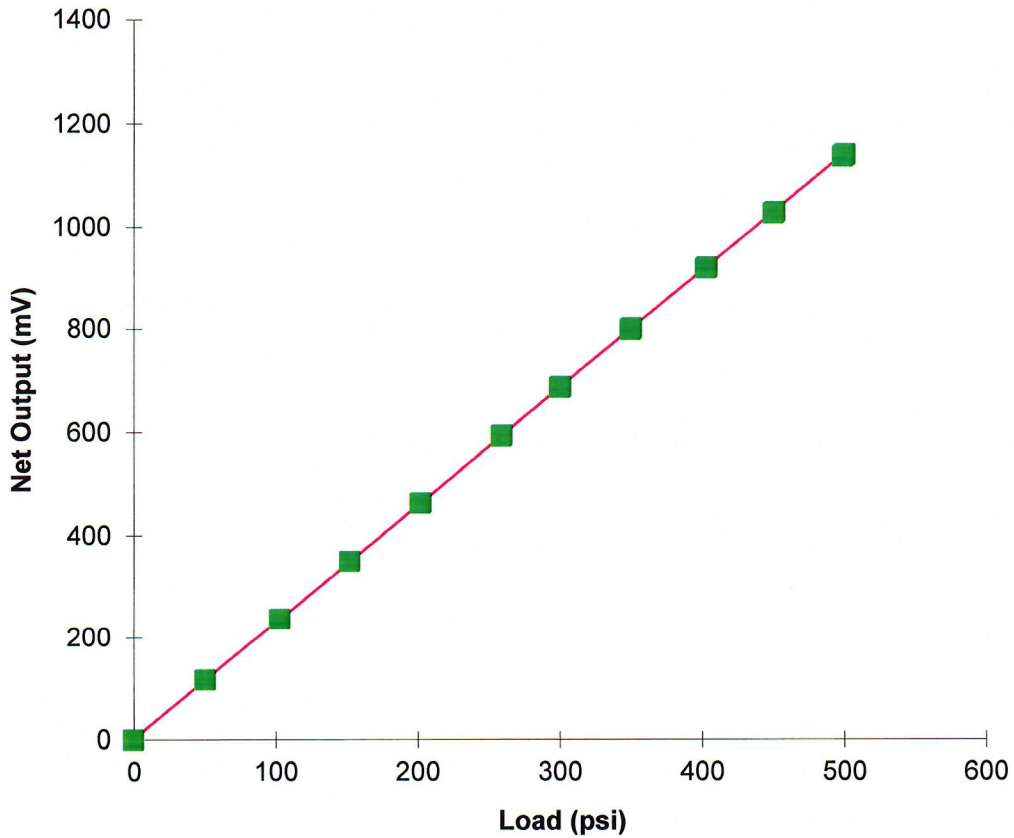


250 Beanville Road  
Randolph, Vermont 05060  
phone: (800)639-6315 fax: (802)728-9871

**Cone Penetrometer Calibration**  
**Digital Cone Pore Pressure**

Cone Serial No.: 4444.149  
Rated Range: 1000 psi  
Load Reference: Ref PT-16244-01PDKV  
Ref. DVM: MY47029221  
Ref. Excitation: 5.034 V<sub>dc</sub>

Date: 20-Mar-17  
Calibrated By:   
L Smith  
Approved By:   
J. Haas



**Cal Factor:** 2.282E+0 mV/psi 2.500E+0 nominal  
**R<sup>2</sup>:** 0.99999  
**Nonlinearity:** 0.20  
**Zero Load Output:** 173.731E-3 mV

# CPT Correlations

References are in parenthesis next to the appropriate equation.

## General

$p_a$ =atmospheric pressure (for unit normalization)

$q_t$ =corrected cone tip resistance (tsf)

$f_s$ =friction sleeve resistance (tsf)

$R_f = 100\% \cdot (f_s/q_t)$

$u_2$ =pore pressure behind cone tip (tsf)

$u_0$ =hydrostatic pressure

$$B_q = (u_2 - u_0) / (q_t - \sigma_{vo})$$

$$Q_t = (q_t - \sigma_{vo}) / \sigma'_{vo}$$

$$F_r = 100\% \cdot f_s / (q_t - \sigma_{vo})$$

$$I_c = ((3.47 - \log Q_t)^2 + (\log F_r + 1.22)^2)^{0.5} \quad 2$$

$$I_{SBT} = ((3.47 - \log(q_t/p_a))^2 + (\log F_r + 1.22)^2)^{0.5} \quad 23$$

$$I_{c\ J\&D} = \sqrt{\{3 - \log(Q_t \cdot (1 - B_q))\}^2 + [1.5 + 1.3 \cdot \log(F_r)]^2} \quad 27$$

$$I_{c\ J\&B} = \sqrt{\{3 - \log(Q_t \cdot (1 - B_q) + 1)\}^2 + [1.5 + 1.3 \cdot \log(F_r)]^2} \quad 28$$

## $K_o$

$$K_o(1) \quad K_o = (1 - \sin \phi) OCR^{\sin \phi}$$

$$K_o(2) \quad K_o = 0.1(Q_t) \quad 1$$

## Stress History

$$OCR = \sigma_p' / \sigma'_{vo}$$

$$OCR(1) \quad \sigma_p' = 0.33(q_t - \sigma_{vo}) - \text{clays} \quad 8$$

$$OCR(2) \quad \sigma_p' = 0.53(u_2 - u_0) - \text{clays} \quad 9$$

$$OCR(3) \quad \sigma_p' = 0.60(q_t - u_2) - \text{clays} \quad 9$$

$$OCR(4) \quad OCR = 0.25 Q_t^{1.25} - \text{clays} \quad 37$$

$$OCR(5) \quad OCR = \left[ \frac{0.192 \cdot (q_t/p_a)^{0.22}}{(1 - \sin(\phi')) \cdot (\sigma'_{vo}/p_a)^{0.31}} \right]^{\frac{1}{\sin(\phi' - 0.27)}} - \text{sands} \quad 35$$

$$OCR(6) \quad \sigma_p' = .101 \cdot p_a^{0.102} \cdot G_{max}^{0.478} \cdot \sigma'_{vo}^{0.420} - \text{all soils} \quad 36$$

## N-Value

$$N_{60} = (q_t/p_a) / [8.5(1 - I_d/4.6)] \quad 6$$

## Undrained Shear Strength

$$S_u(1) \quad S_u = (u_2 - u_0) / N_u \quad \text{where } 7 \leq N_u \leq 9 \quad 10$$

$$S_u(2) \quad S_u = (q_t - \sigma_{vo}) / N_{kT} \quad \text{where } 15 \leq N_{kT} \leq 20 \quad 11$$

$$S_u(3) \quad S_u = 0.091 \cdot ((\sigma'_{vo})^{0.2}) \cdot (q_t - \sigma_{vo})^{0.8} \quad 21$$

$$S_u(4) \quad S_u = (q_c - \sigma_{vo}) / N_k \quad \text{where } 15 \leq N_k \leq 20 \quad 11$$

$$S_u(5) \quad S_u = q_t / N_c \quad \text{where } XXX \leq N_c \leq YYY$$

$$S_u(6) \quad S_u = q_c / N_c \quad \text{where } XXX \leq N_c \leq YYY$$

## Effective Cohesion

$$c' = 0.02 * \sigma_p' \quad 38$$

### Drained Friction Angle

|             |   |    |
|-------------|---|----|
| $\phi' (1)$ | $\phi' = 17.6 + 11.0 \text{Log}[q_t/(\sigma_{vo}')^{0.5}]$                | 1  |
| $\phi' (2)$ | $\phi' = \arctan[0.1 + 0.38 \text{Log}(q_t/\sigma_{vo}')] $               | 13 |
| $\phi' (3)$ | $\phi' = 30.8 \text{Log}[(f_s/\sigma_{vo}') + 1.26]$ (for clays or sands) | 14 |
| $\phi' (4)$ | $\phi' = 29.5 B_q^{0.121} (0.256 + 0.33 B_q + \text{Log}(Q_t))$           | 24 |

### Unit Weight

$$\rho = \gamma/\gamma_w$$

$$\rho = 0.8 \text{Log}(V_s) \quad V_s \text{ in m/sec} \quad 17$$

### Relative Density and Void Ratio

|           |   |  |    |
|-----------|---|--|----|
| $D_R (1)$ | $D_R = 100(q_{c1}/305)^{1/2}$   | where, $q_{c1} = q_c/(\sigma_{vo}')^{1/2}$ | 1  |
| $D_R (2)$ | $D_R = -1.292 + 0.268 \ln(q_c \cdot (\sigma_{vo}')^{-0.5})$             |  | 18 |
| $D_R (3)$ | $D_R = (1/2.41) \cdot \ln(q_{c1}/15.7)$                                 |  | 3  |
| $D_R (4)$ | $D_R = 1/2.91 * \ln((q_c/(61 * \sigma_{vo}')^{0.71})) * 100$            |  | 20 |
| $D_R (5)$ | $D_R = 100 * (0.268 * \ln((q_t/p_a)/(\sigma_{vo}'/p_a)^{0.5}) - 0.675)$ |  | 34 |

$$e_o = 1.099 - 0.204 \log(q_{c1}) \quad 1$$

$$E_D = 5 q_t \quad I_D = 2.0 - 0.14(R_f) \quad K_D = E_D/(34.7 \cdot I_D \cdot \sigma_{vo}')$$

### Compressibility

$M (1) = R_m E_D$  where  $R_m = \text{function}(I_D, K_D)$  see the following table 22

|                 |  |
|-----------------|--|
| $I_D \leq 0.6$  | $R_M = 0.14 + 2.36 \log K_D$               |
| $I_D \geq 3$    | $R_M = 0.5 + 2 \log K_D$                   |
| $0.6 < I_D < 3$ | $R_M = R_{M,D} + (2.5 - R_{M,D}) \log K_D$ |
|                 | $R_{M,D} = 0.14 + 0.15(I_D - 0.6)$         |
| $K_D > 10$      | $R_M = 0.32 + 2.18 \log K_D$               |
| $R_M < 0.85$    | $R_M = 0.85$                               |

|         |   |    |
|---------|---|----|
| $M (2)$ | $M = q_c \cdot 10^{(1.09 - 0.0075 D_R)}$ sands                                | 1  |
| $M (3)$ | $M = 8.25 (q_t - \sigma_{vo})$ clays  | 1  |
| $M (4)$ | $M = \alpha \cdot G_{max}$ where $0.02 < \alpha < 2$ and $G_{max}$ is from Vs | 33 |

### Rigidity Index

$$I_R = \exp \left[ \left( \frac{1.5}{M} + 2.925 \right) \cdot \left( \frac{q_t - \sigma_{vo}}{q_t - u_2} \right) - 2.925 \right] \text{ where } M = 6 \sin \phi' / (3 - \sin \phi') \quad 39$$

### Sensitivity

|           |  |   |
|-----------|--|---|
| $S_t (1)$ | $S_t = 7.5/R_f$                            | 2 |
| $S_t (2)$ | $S_t = (q_t - \sigma_{vo})/(15 \cdot f_s)$ | 2 |

### Fines Content

$$FC = [(3.58 - \log(q_t))^2 + (1.43 + \log(R_f))^2]^{1.8} \quad 4$$

$$FC = [5.31(I_{cfs})^{2.31}] + 9.61, \text{ where } I_{cfs} = [(1.95 - \log Q_t)^2 + (\log F_r + 1.78)^2]^{0.5}$$

### **Shear Wave Velocity**

$$V_s(1) = 277 \cdot q_t^{0.13} \cdot \sigma'_{vo}{}^{0.27} \quad (\text{sands}) - \text{m/s and MPa} \quad 29$$

$$V_s(2) = 1.75 \cdot q_t^{0.627} \quad (\text{clays}) - \text{m/s and kPa} \quad 30$$

$$V_s(3) = (10.1 \cdot \log q_t - 11.4)^{1.67} \cdot \left(\frac{f_s}{q_t} \cdot 100\right)^{0.3} \quad (\text{all soils}) - \text{m/s and kPa} \quad 31$$

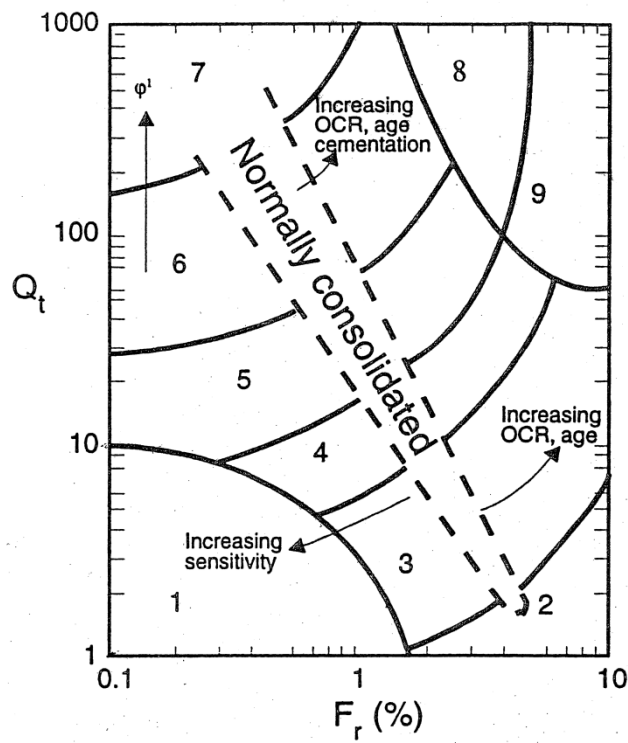
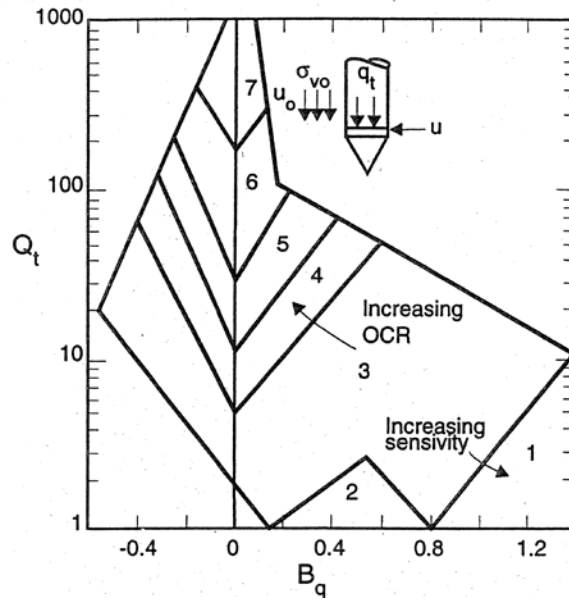
$$V_s(4) = 118.8 \cdot \log f_s + 18.5 \quad (\text{all soils}) - \text{m/s and kPa} \quad 32$$

$$G_{max} = \rho V_s^2$$

### **Hydraulic Conductivity**

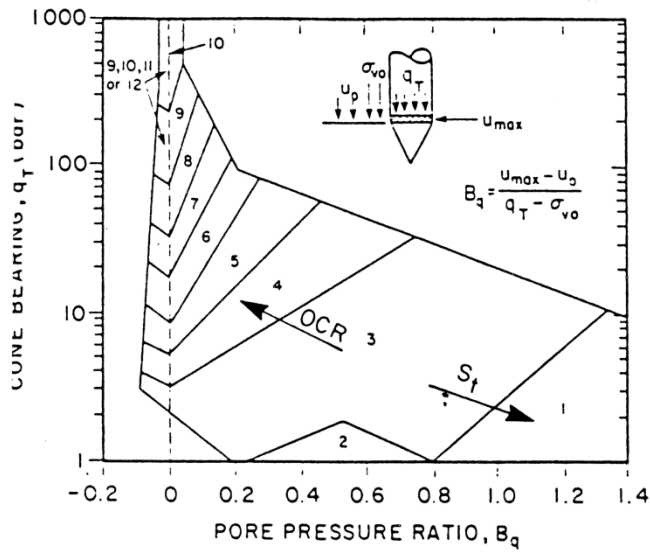
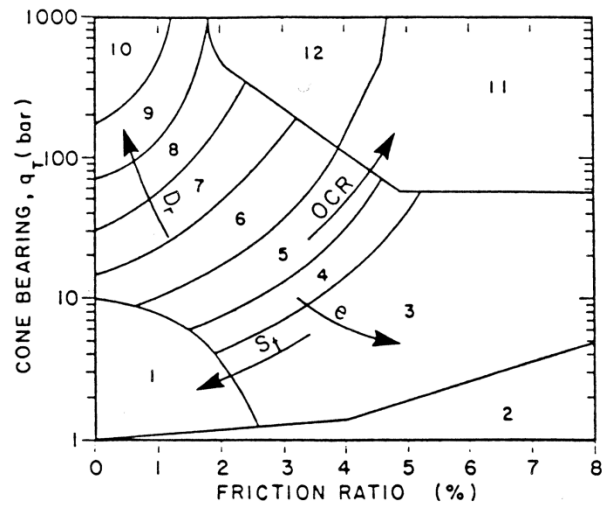
Lookup based on SBT and SBTn (1986 and 1990) 40

# Normalized Soil Behavior Types - Robertson & Campanella (1990)





# Non-Normalized Soil Behavior Types – Robertson & Campanella (1986)



# References

1. Kulhawy, F. H., and Mayne, P. W., (1990), "Manual for estimating soil properties for foundation design.", *Report EL-6800*, EPRI, Palo Alto, CA.
2. Lunne, T., Robertson, P.K., and Powell, J.J.M. (1997) *Cone Penetration Testing in Geotechnical Practice*
3. Baldi, G, Bellotti, R., Ghionna, V., Jamiolkowski, M. and Pasqualini, E. (1986), Interpretation of CPTs and CPTUs; 2<sup>nd</sup> part: drained penetration of sands, Proceedings of the 4<sup>th</sup> International Geotechnical Seminar, Singapore.
4. Syms, Frank (2001), Savannah River Site Bechtel Corporation, CPTU Fines Content Determination, Calculation No. K-CIC-G-00065 Revision 0.
5. Marchetti, S. (1980), "In-situ tests by flat dilatometer.", *Journal of Geotechnical Engineering*, Vol. 107, GT3
6. Jefferies, M. G. and Davies, M. P., (1993), "Use of CPTu to estimate equivalent SPT  $N_{60}$ ", *ASTM Geotechnical Testing Journal*, Vol. 16, No. 4
7. Robertson, P. K., Campanella, R. G., Gillespie, D. and Grieg, J. (1986), "Use of piezometers cone data". *Proceedings of the ASCE Specialty Conference In Situ '86: Use of In Situ Tests in Geotechnical Engineering*, Blacksburg, VA
8. Mayne, P. W., (1995), "Profiling yield stresses in clays by in situ tests.", *Transportation Research Record No. 1479: Engineering Properties and Practice in Overconsolidated Clays*. National Academy Press, Washington, D.C.
9. Chen, B. S. Y., and Mayne, P. W., (1996), "Statistical relationships between piezocone measurements and stress history of clays", *Canadian Geotechnical Journal*, Vol. 33, No. 3
10. Mayne, P. W. and Holtz, R. D., (1988), "Profiling stress history from piezocone soundings.", *Soils and Foundations*. Vol 28, No. 1
11. Aas, G., Lacasse, S., Lunne, T. and Höeg, K. (1986), "Use of in situ tests for foundation design on clay", *Proceedings of the ASCE Specialty Conference In Situ '86: Use of In Situ Tests in Geotechnical Engineering*, Blacksburg, VA
12. Schmertmann, J. H., (1988) Guidelines for Using the CPT, CPTu, and Marchetti DMT for Geotechnical Design: Volume III – DMT Test Methods and Data Reduction. FHWA-PA-87-024+84-24
13. Robertson, P. K., and Campanella, R. G., (1983), "Interpretation of cone penetrometer test: Part I: Sand". *Canadian Geotechnical Journal*, 20(4)
14. Masood & Mitchell (1993)
15. Robertson, P. K., and Campanella, R. G., (1991), "Use and interpretation of research Dilatometer". *Canadian Geotechnical Journal*, 28(1)
16. Marchetti, S. (1997), "The flat Dilatometer design applications", Third Geotechnical Engineering Conference, Cairo University
17. Mayne (1999) Course Notes
18. Jamiolkowski et al (1985)
19. Reyna & Chameau (1991)
20. Lunne & Christofferson (1983)
21. Wright, S. G, and Duncan, J. M. (2006), Notes for the Short Course "Shear Strength & Slope Stability"

22. Mayne, P.W. "Equivalent CPT Method for Calculating Shallow Foundation Settlements in the Piedmont Residual Soils Based on the DMT Constrained Modulus Approach." <http://geosystems.ce.gatech.edu/Faculty/Mayne/papers/>
23. Robertson, P.K. (2010) "Soil behavior type from the CPT: an update" 2<sup>nd</sup> International Symposium on Cone Penetration Testing, Huntington Beach California
24. Mayne, P.W. and Campanella, R.G., "Versatile Site Characterization by Seismic Piezocone," *Proceedings, 16<sup>th</sup> International Conference on Soil Mechanics and Geotechnical Engineering*, Vol. 2 (Osaka), Millpress, Rotterdam, The Netherlands, 2005, pp. 721–724.
25. Zhang Z. and Tumay, M. (1999) "Statistical to Fuzzy Approach Toward CPT Classification" *Journal of Geotechnical Engineering*, Vol. 125, No 3
26. Schneider et al. (2008) "Analysis of Factors Influencing Soil Classification Using Normalized Piezocone Tip Resistance and Pore Pressure Parameters" *Journal of Geotechnical Engineering*, November 2008
27. Jefferies, M.G. and M.P. Davies, "Use of CPTu to Estimate Equivalent SPT N60," *Geotechnical Testing Journal*, Vol. 16, No. 4, Dec. 1993, pp. 458–468.
28. Jefferies, M. and Been, K. 2006. *Soil Liquefaction: A Critical State Approach*, Taylor and Francis Group, London: 480 p.
29. Baldi, G., R. Bellotti, V.N. Ghionna, M. Jamiolkowski, and D.C.F. LoPresti, "Modulus of Sands from CPTs and DMTs," *Proceedings, 12th International Conference on Soil Mechanics and Foundation Engineering*, Vol. 1, Rio de Janeiro, Brazil, 1989, Balkema, Rotterdam, The Netherlands, pp. 165–170.
30. Mayne, P.W. and G.J. Rix, "Correlations Between Shear Wave Velocity and Cone Tip Resistance in Clays," *Soils & Foundations*, Vol. 35, No. 2, 1995, pp. 107–110.
31. Hegazy, Y.A. and P.W. Mayne, "Statistical Correlations Between Vs and CPT Data for Different Soil Types," *Proceedings, Symposium on Cone Penetration Testing*, Vol. 2, Swedish Geotechnical Society, Linköping, Sweden, 1995, pp. 173–178.
32. Mayne, P.W., "The 2nd James K. Mitchell Lecture: Undisturbed Sand Strength from Seismic Cone Tests," *Geomechanics and Geoengineering*, Vol. 1, No. 4, 2006, pp. 239–247.
33. Burns, S.E. and P.W. Mayne, "Interpretation of Seismic Piezocone Results for the Evaluation of Hydraulic Conductivity in Clays," *Geotechnical Testing Journal*, Vol. 25, No. 3, 2002b, pp. 333–340.
34. Jamiolkowski, M., D.C.F. LoPresti, and M. Manassero, "Evaluation of Relative Density and Shear Strength of Sands from Cone Penetration Test and Flat Dilatometer Test," *Soil Behavior and Soft Ground Construction* (GSP 119), American Society of Civil Engineers, Reston, Va., 2001, pp. 201–238.
35. Mayne, P.W., "Integrated Ground Behavior: In-Situ and Lab Tests," *Deformation Characteristics of Geomaterials*, Vol. 2 (Proc. Lyon, France), Taylor & Francis, London, United Kingdom, 2005, pp. 155–177.
36. Mayne, P.W. and D.A. Brown, "Site Characterization of Piedmont Residuum of North America," *Characterization and Engineering Properties of Natural Soils*, Vol. 2, Swets and Zeitlinger, Lisse, The Netherlands, 2003, pp. 1323–1339.
37. Robertson, P.K. (2009) "Performance based earthquake design using the CPT", Keynote lecture, IS-Tokyo

38. Mayne, P.W. and H.E. Stewart, "Pore Pressure Response of  $K_0$  Consolidated Clays," *Journal of Geotechnical Engineering*, Vol. 114, No. 11, 1988, pp. 1340–1346.
39. Mayne, P.W., "Stress-Strain-Strength-Flow Parameters from Enhanced In-Situ Tests," *Proceedings, International Conference on In-Situ Measurement of Soil Properties and Case Histories*, Bali, Indonesia, 2001, pp. 27–48.
40. Robertson, P.K. and Cabal, K.L. "Guide to Cone Penetration Testing for Geotechnical Engineering" Gregg Drilling & Testing, Inc. 2009 pp 41-42.

# **PERMITS**



**DEPARTMENT OF THE ARMY**  
CHARLESTON DISTRICT, CORPS OF ENGINEERS  
1949 INDUSTRIAL PARK ROAD, ROOM 140  
CONWAY, SOUTH CAROLINA 29526

MAR 12 2018

Regulatory Division

City of Georgetown, SC  
c/o William Barna  
McSweeney Engineers, LLC  
123 Cannon Street  
Charleston, South Carolina 29403

Dear Mr. Barna

This letter is in response to a Pre-Construction Notification (PCN) (SAC-2018-00063) which we received on January 11, 2018, and was considered complete on March 1, 2018. By submittal of the PCN, you requested verification that the proposed project is authorized by a Department of the Army (DA) Nationwide Permit (NWP).

The PCN contains the following identifying information for this project. The work affecting waters of the United States is part of an overall project known as Bulkhead Replacement at Constitution Park. The activities in waters of the United States include the removal of approximately 65.7 LF of failing timber bulkhead located at the water's edge and replacing it with approximately 60 LF of bulkhead within the same footprint of the existing. The project is located along the Georgetown Harborwalk within Constitution Park on the Sampit River By-pass channel, in Georgetown, Georgetown County, South Carolina (Latitude: 33.3671°N, Longitude: -79.2851°W). The PCN also includes the following supplemental information:

Based on a review of the PCN, including the supplemental information indicated above, it has been determined that the proposed activity will result in minimal individual and cumulative adverse environmental effects and is not contrary to the public interest. Furthermore, the activity meets the terms and conditions of Nationwide Permit # 3.

For this authorization to remain valid, the project must comply with the enclosed NWP General Conditions, Charleston District Regional Conditions, and the following special conditions:

- 1. That prior to beginning the authorized work the permittee must obtain and provide the Corps with a copy of all appropriate state certifications and/or authorizations (e.g., 401 Water Quality Certification, Coastal Zone Management Act concurrence, State Navigable Waters Permit, etc.). This PROVISIONAL NWP is NOT VALID until the permittee obtains and provides the requisite state certification(s) and/or authorization(s) in accordance with this special condition;**

2. That impacts to aquatic areas do not exceed those specified in the above mentioned PCN, including any supplemental information or revised permit drawings that were submitted to the Corps by the permittee;
3. That the construction, use, and maintenance of the authorized activity is in accordance with the information given in the PCN, including the supplemental information listed above, and is subject to any conditions or restrictions imposed by this letter;
4. That the permittee shall submit the attached signed compliance certification to the Corps within 30 days following completion of the authorized work;
5. The permittee shall instruct all personnel associated with the project of the potential presence of and the need to avoid collisions with protected species, which may include but is not limited to West Indian manatees, Atlantic sturgeon, shortnose sturgeon, sea turtles, blue whale, fin whale, humpback whale, North Atlantic right whale, sei whale and sperm whale;
6. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing protected species which are protected under the Marine Mammal Protection Act of 1972 and/or the Endangered Species Act of 1973;
7. Any siltation barriers used during the project shall be made of material in which protected species cannot become entangled and must be properly secured, and regularly monitored to avoid protected species entrapment;
8. All vessels associated with the project shall operate at no wake/idle speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible;
9. If protected species are seen within 100 yards of the active construction area all appropriate precautions shall be implemented to ensure protection of the protected species. These precautions shall include the operation of all moving equipment no closer than 50 feet to a protected species. Operation of any equipment closer than 50 feet to a protected species shall necessitate immediate shutdown of that equipment. Activities will not resume until the protected species has departed the project area of its own volition;
10. Incidents where any individuals of sea turtles, Atlantic sturgeon, shortnose sturgeon, blue whale, fin whale, humpback whale, North Atlantic right whale, sei whale and sperm whale listed by NOAA Fisheries under the Endangered Species Act appear to be injured or killed as a result of discharges of dredged or fill material into waters of the United States or structures or work in navigable waters of the United States authorized by this DA permit shall be reported to NOAA Fisheries, Office of Protected Species at (727) 824-5312, the SCDNR Hotline at 1-800-922-5431, and the Regulatory Office of the Charleston District of the U.S. Army Corps of Engineers at (843) 329-8044. The finder should leave the animal alone,

**make note of any circumstances likely causing the death or injury, note the location and number of individuals involved and, if possible, take photographs. Adult animals should not be disturbed unless circumstances arise where they are obviously injured or killed by discharge exposure, or some unnatural cause. The finder may be asked to carry out instructions provided by NOAA Fisheries, Office of Protected Resources, to collect specimens or take other measures to ensure that evidence intrinsic to the specimen is preserved;**

**11. In order to insure protection and reduce potential construction-related impacts to West Indian manatees that may enter the project area during dredging activities performed outside the winter months (November thru April), to discountable and insignificant levels, the permittee will comply with the following:**

- a. All construction personnel must monitor water-related activities for the presence of manatee(s) during May - October.**
- b. Any collision with and/or injury to a manatee shall be reported immediately to Mr. Jim Valade of the U.S. Fish and Wildlife Service, North Florida Field Office, at (904) 731-3116, and the SCDNR Hotline at 1-800-922-5431.;**

This verification is valid until March 18, 2022, unless the district engineer modifies, suspends, or revokes the NWP authorization in accordance with 33 CFR 330.5(d). If prior to this date, the NWP authorization is reissued without modification or the activity complies with any subsequent modification of the NWP authorization, the verification continues to remain valid until March 18, 2022. If you commence, or are under contract to commence, this activity before the NWP expires, or the NWP is modified, suspended, or revoked by the Chief of Engineers or division engineer in accordance with 33 CFR 330.5(b) or (c), respectively, so that the activity would no longer comply with the terms and conditions of the NWP, you will have 12 months after the date the NWP expires or is modified, suspended, or revoked, to complete the activity under the present terms and conditions of this NWP.

This NWP is being verified based on the information you have provided. It is your responsibility to read the attached NWP(s) along with the General, Regional, and Special Conditions before you begin work. If you determine that your project will not be able to meet the NWP and the conditions, you must contact the Corps before you proceed.

In all future correspondence concerning this matter, please refer to our file number SAC-2018-00063. A copy of this letter is being forwarded to certain State and/or Federal agencies for their information. If you have any questions concerning this matter, please contact Megan N. Jackson, Project Manager, at (843) 365-1739.

Sincerely,



Rob Huff  
Watershed Manager



Enclosures

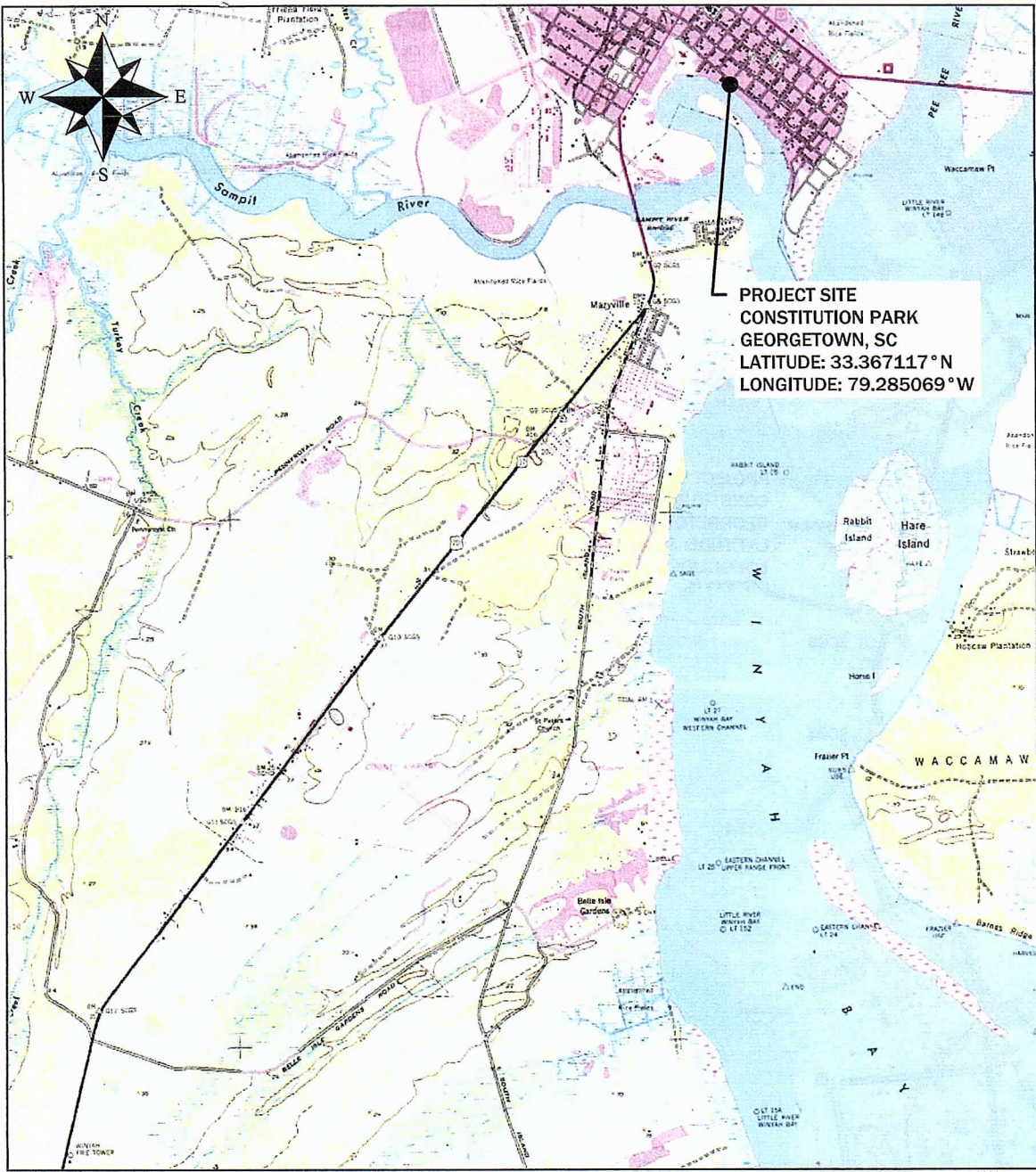
Permit Drawings  
Nationwide Permit #3  
Nationwide Permit General Conditions  
Nationwide Permit Regional Conditions  
Compliance Certification Form

Copies Furnished:

City of Georgetown, SC  
PO Box 939  
Georgetown, South Carolina 29442

South Carolina Department of  
Health and Environmental Control  
Bureau of Water  
2600 Bull Street  
Columbia, South Carolina 29201

South Carolina Department of Health  
and Environmental Control  
Office of Ocean and Coastal  
Resource Management  
1362 McMillan Avenue, Suite 400  
Charleston, South Carolina 29405

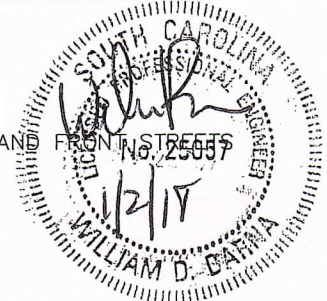


**DIRECTIONS TO SITE:**

- TAKE US 17 TO GEORGETOWN
- TURN ON FRONT STREET HEADING SOUTHEAST
- PROJECT IS AT CONSTITUTION PARK AT NEAR INTERSECTION WITH ORANGE AND FRONT STREETS

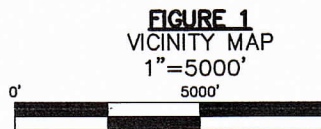
**PERMITTED  
PLANS**

**PROJECT VICINITY**  
SCALE: 1" = 5000'



**PURPOSE:** SHORELINE PROTECTION  
MAINTENANCE AND REPAIR

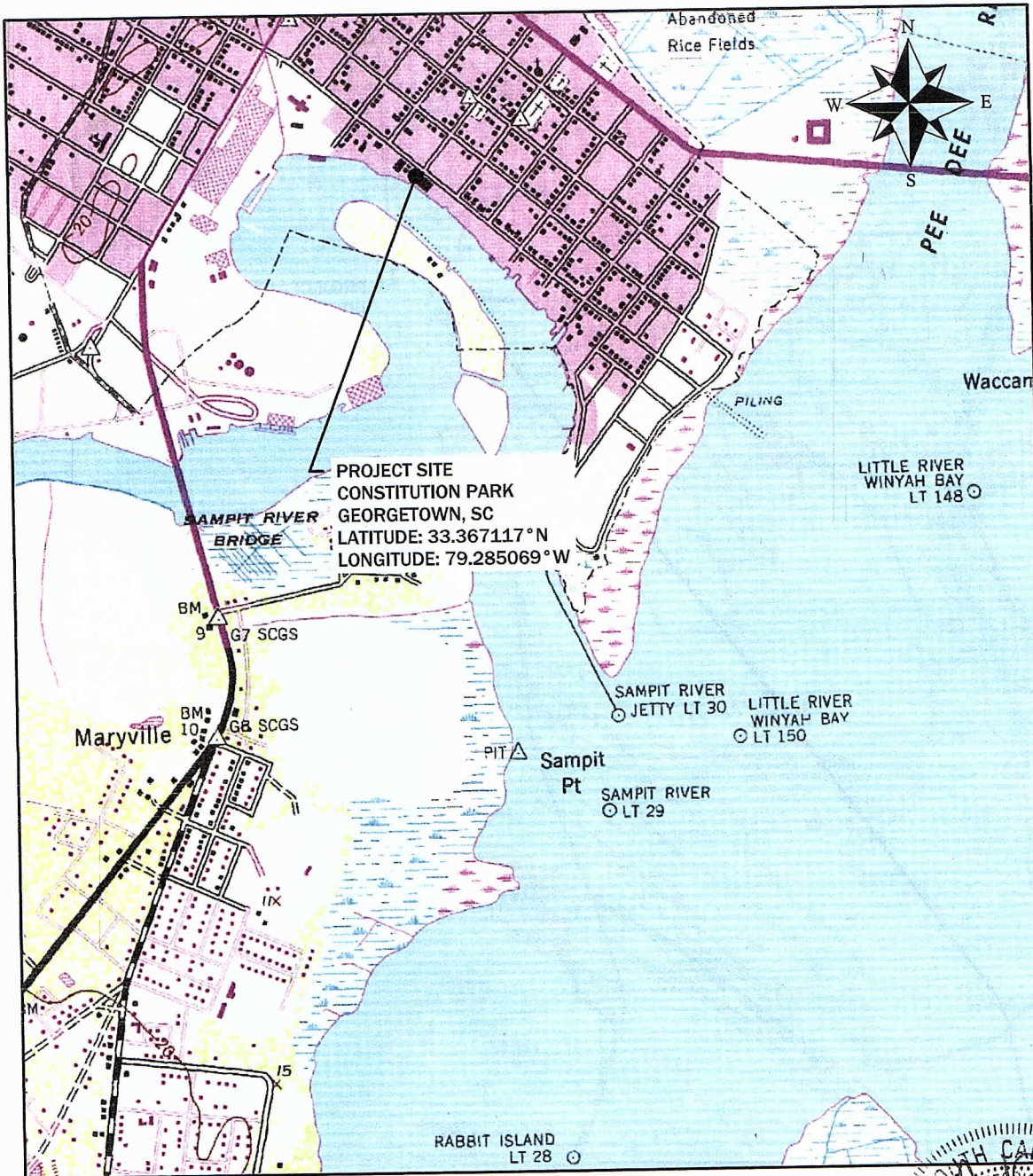
**ADJACENT PROPERTY OWNERS:**  
SEE ATTACHED SCHEDULE



**APPLICANT**  
CITY OF GEORGETOWN  
**AGENT**  
McSWEENEY ENGINEERS, LLC

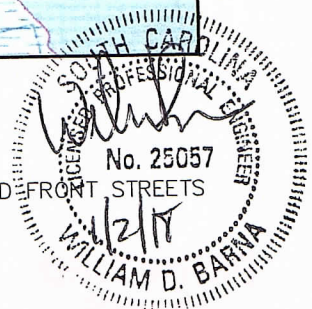
**"Bulkhead Replacement at Constitution Park"**  
SAC-2018-00063  
Georgetown, SC  
Sheet 1 of 8 March 1, 2018

**APPLICATION NO.** 1BD  
**SHEET:** 1 OF 8 **DATE:** 1/2/18



DIRECTIONS TO SITE:

- TAKE US 17 TO GEORGETOWN
- TURN ON FRONT STREET HEADING SOUTHEAST
- PROJECT IS AT CONSTITUTION PARK AT NEAR INTERSECTION WITH ORANGE AND FRONT STREETS



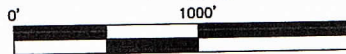
**PERMITTED PLANS**

PROJECT LOCATION

SCALE: 1" = 1000'

**PURPOSE:** SHORELINE PROTECTION MAINTENANCE AND REPAIR

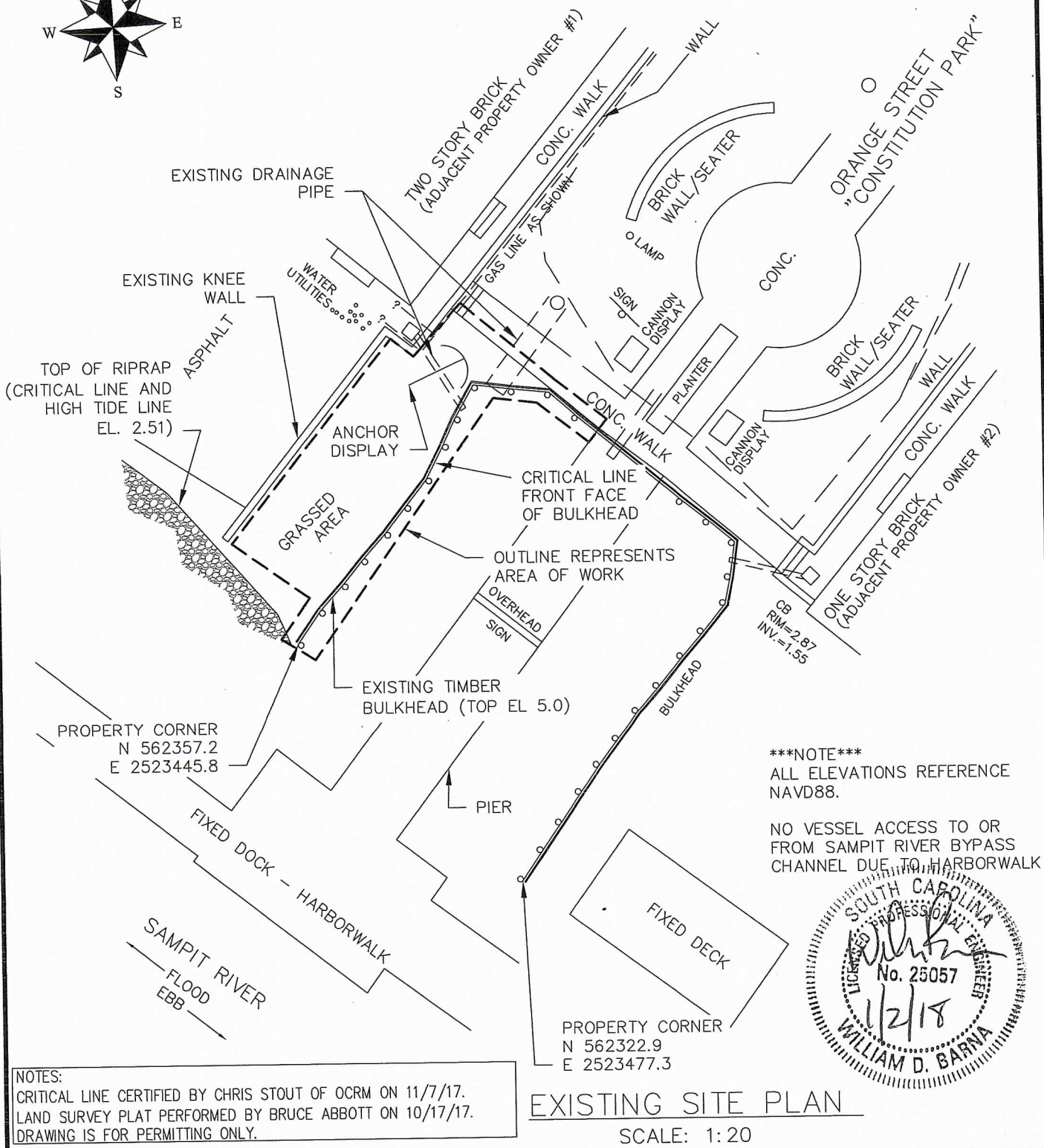
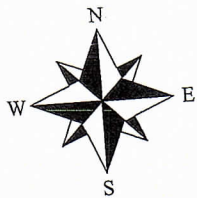
**ADJACENT PROPERTY OWNERS:** SEE ATTACHED SCHEDULE



**APPLICANT**  
CITY OF GEORGETOWN  
**AGENT**  
McSWEENEY ENGINEERS, LLC

"Bulkhead Replacement at Constitution Park"  
SAC-2018-00063  
Georgetown, SC  
Sheet 2 of 8 March 1, 2018

**ATTACHMENT NO. 1B-D**  
**SHEET: 2 OF 8**      **DATE: 1/2/18**



NOTES:  
 CRITICAL LINE CERTIFIED BY CHRIS STOUT OF OCRM ON 11/7/17.  
 LAND SURVEY PLAT PERFORMED BY BRUCE ABBOTT ON 10/17/17.  
 DRAWING IS FOR PERMITTING ONLY.

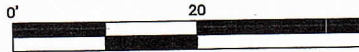
**EXISTING SITE PLAN**  
 SCALE: 1:20

**PURPOSE:** SHORELINE PROTECTION MAINTENANCE AND REPAIR

**ADJACENT PROPERTY OWNERS:** SEE ATTACHED SCHEDULE

**PERMITTED PLANS**

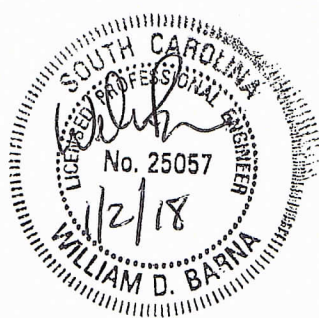
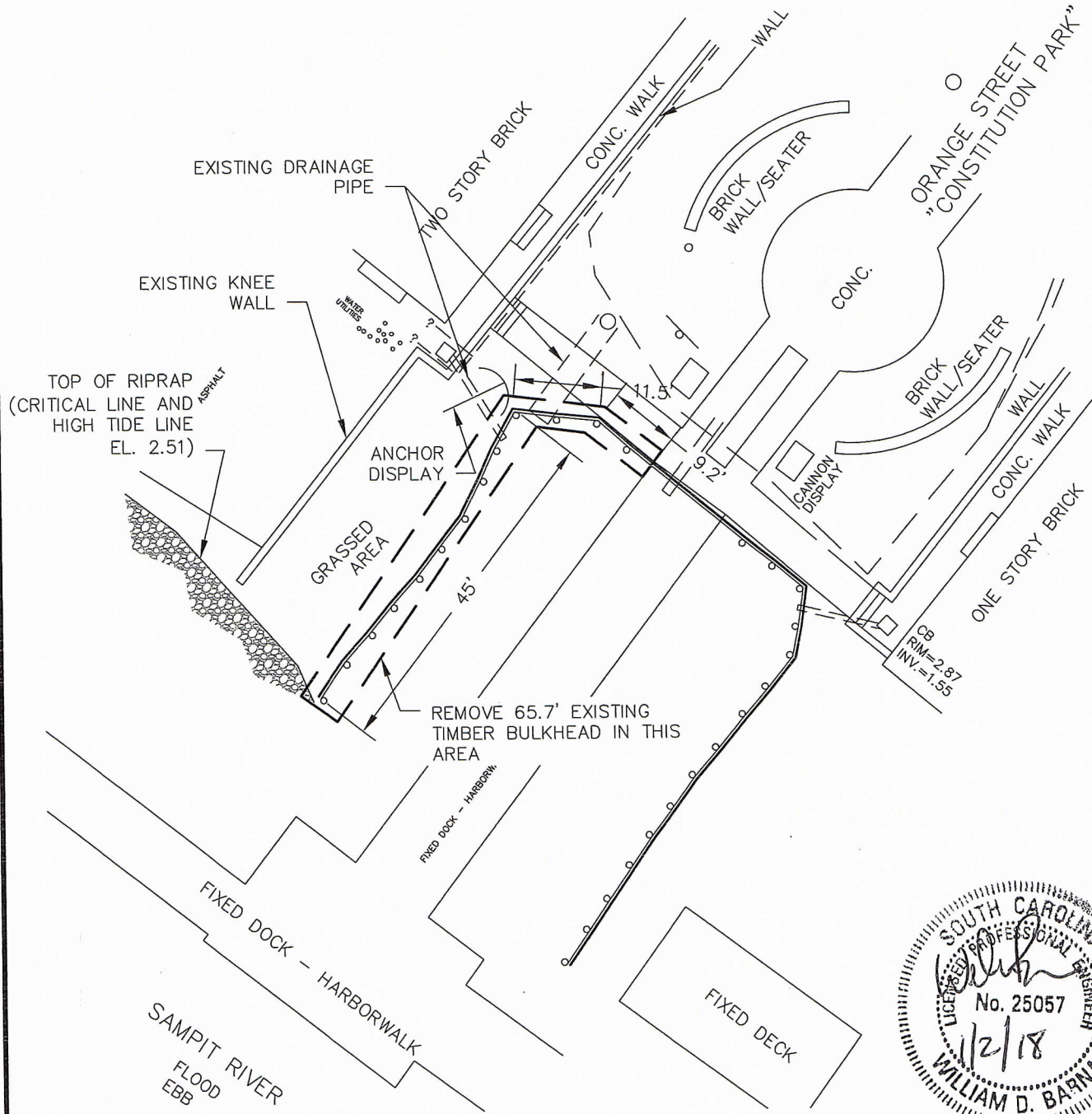
**FIGURE 3**  
 EXISTING SITE PLAN 1  
 1:20



**APPLICANT**  
 CITY OF GEORGETOWN  
**AGENT**  
 McSWEENEY ENGINEERS, LLC

**"Bulkhead Replacement at Constitution Park"**  
 SAC-2018-00063  
 Georgetown, SC  
 Sheet 3 of 8 March 1, 2018

**SHEET: 3 OF 8 DATE: 1/2/18**



NOTES:  
 CRITICAL LINE CERTIFIED BY CHRIS STOUT OF OCRM ON 11/7/17.  
 LAND SURVEY PLAT PERFORMED BY BRUCE ABBOTT ON 10/17/17.  
 DRAWING IS FOR PERMITTING ONLY.

**DEMOLITION PLAN**  
 SCALE: 1:20

**PURPOSE:** SHORELINE PROTECTION MAINTENANCE AND REPAIR  
**ADJACENT PROPERTY OWNERS:** SEE ATTACHED SCHEDULE

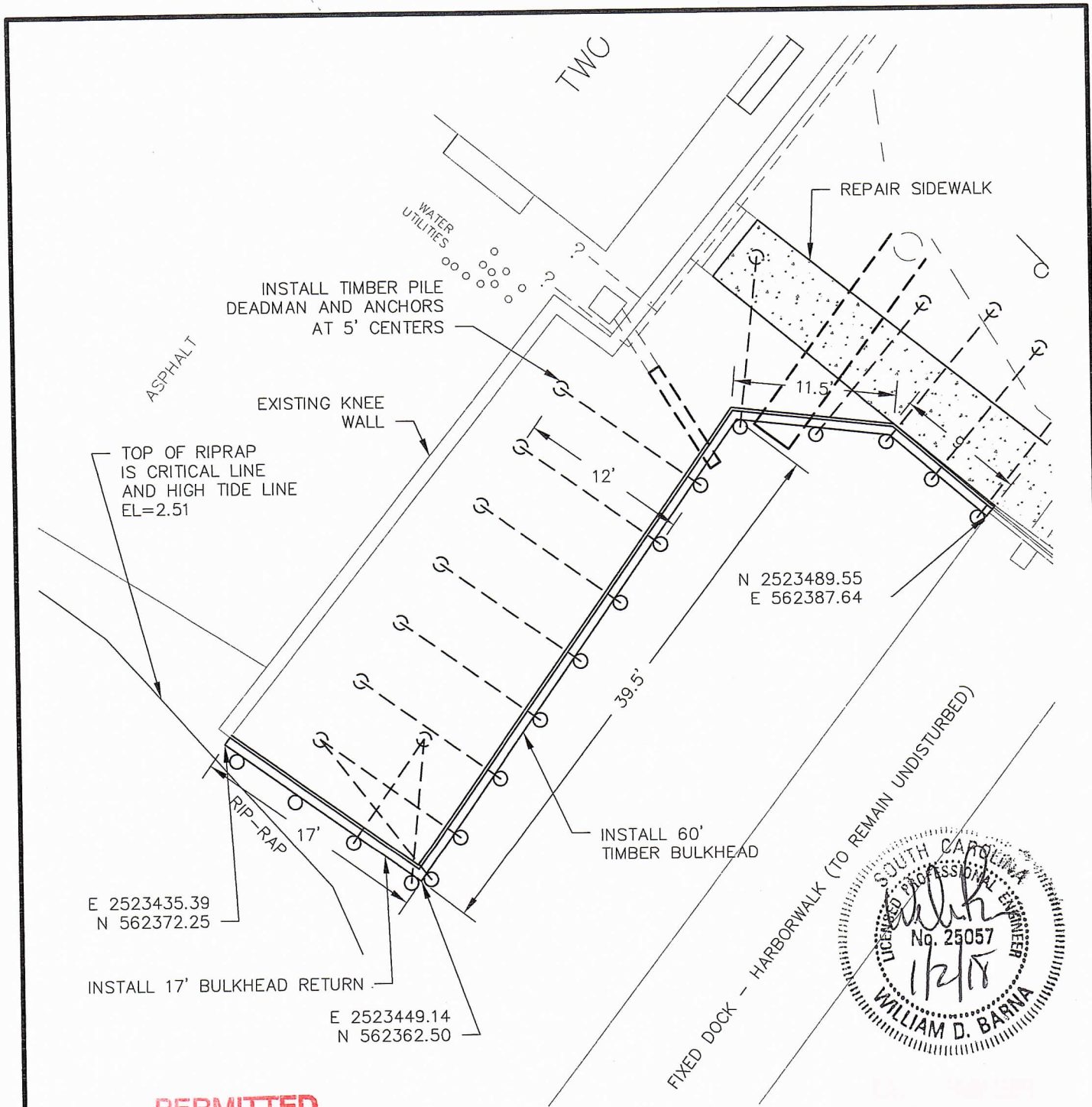
**FIGURE 4**  
 DEMOLITION PLAN  
 1:20

**APPLICANT**  
 CITY OF GEORGETOWN  
**AGENT**  
 McSWEENEY ENGINEERS, LLC

"Bulkhead Replacement at Constitution Park"  
 SAC-2018-00063  
 Georgetown, SC  
 Sheet 4 of 8 March 1, 2018

**SHEET:** 4 OF 8      **DATE:** 1/2/18

**PERMITTED PLANS**



**PERMITTED PLANS**

IMAPCT #1:  
INSTALL TOTAL 77 LF  
TIMBER BULKHEAD

NOTES:  
CRITICAL LINE CERTIFIED BY CHRIS STOUT OF OCRM ON 11/7/17.  
LAND SURVEY PLAT PERFORMED BY BRUCE ABBOTT ON 10/17/17.  
DRAWING IS FOR PERMITTING ONLY.

**PROPOSED SITE PLAN**

SCALE: 1:10

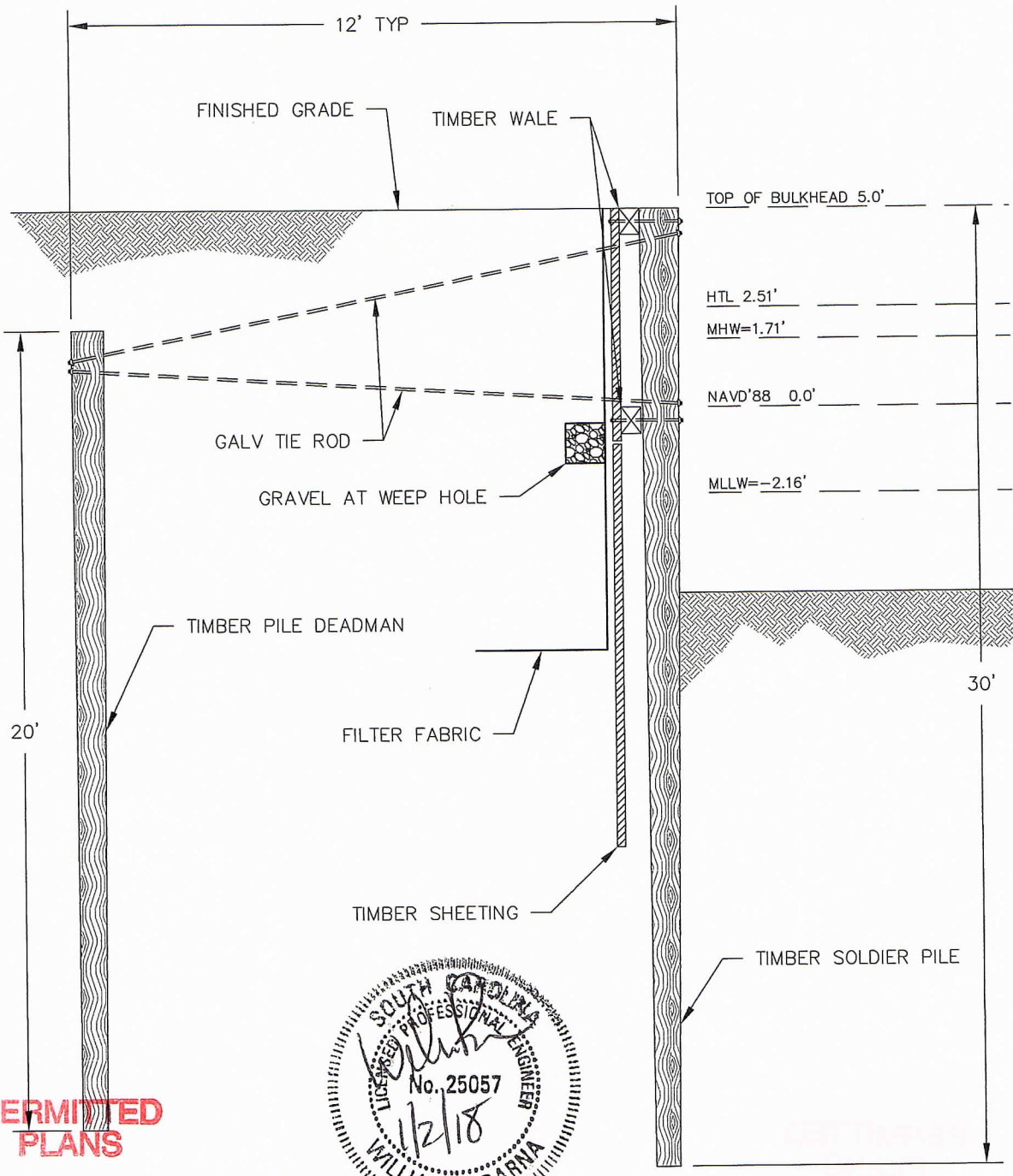
**PURPOSE:** SHORELINE PROTECTION MAINTENANCE AND REPAIR  
**ADJACENT PROPERTY OWNERS:** SEE ATTACHED SCHEDULE

**FIGURE 5**  
PROPOSED SITE PLAN  
1:10

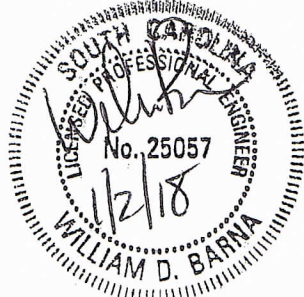
**APPLICANT**  
CITY OF GEORGETOWN  
**AGENT**  
McSWEENEY ENGINEERS, LLC

"Bulkhead Replacement at Constitution Park"  
SAC-2018-00063  
Georgetown, SC  
Sheet 5 of 8 March 1, 2018

**SHEET:** 5 OF 8      **DATE:** 1/2/18



**PERMITTED  
PLANS**

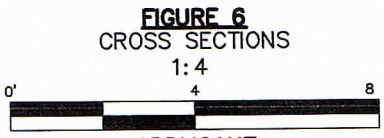


**NOTES:**  
DRAWING FOR PERMIT ONLY.  
NOT FOR CONSTRUCTION

**TYPICAL DOCK E**  
SCALE: 1:

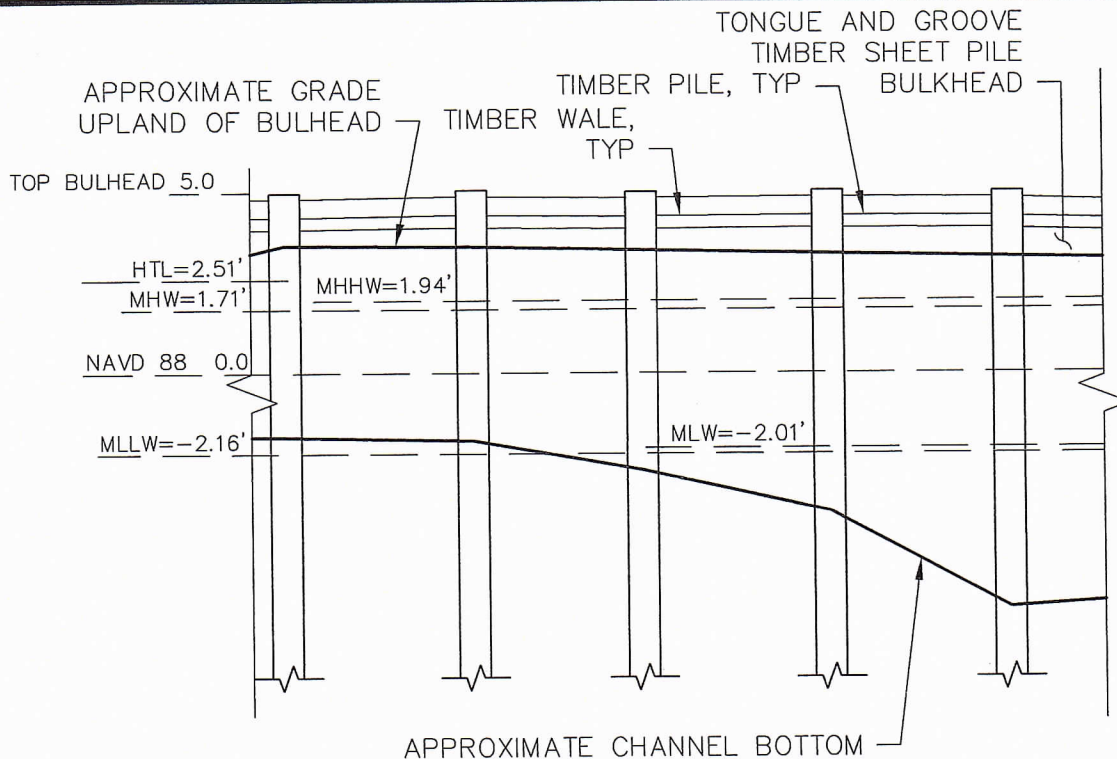
**"Bulkhead Replacement at Constitution Park"**  
SAC-2018-00063  
Georgetown, SC  
Sheet 6 of 8 March 1, 2018

**PURPOSE:** SHORELINE PROTECTION  
MAINTENANCE AND REPAIR  
**ADJACENT PROPERTY OWNERS:**  
SEE ATTACHED SCHEDULE



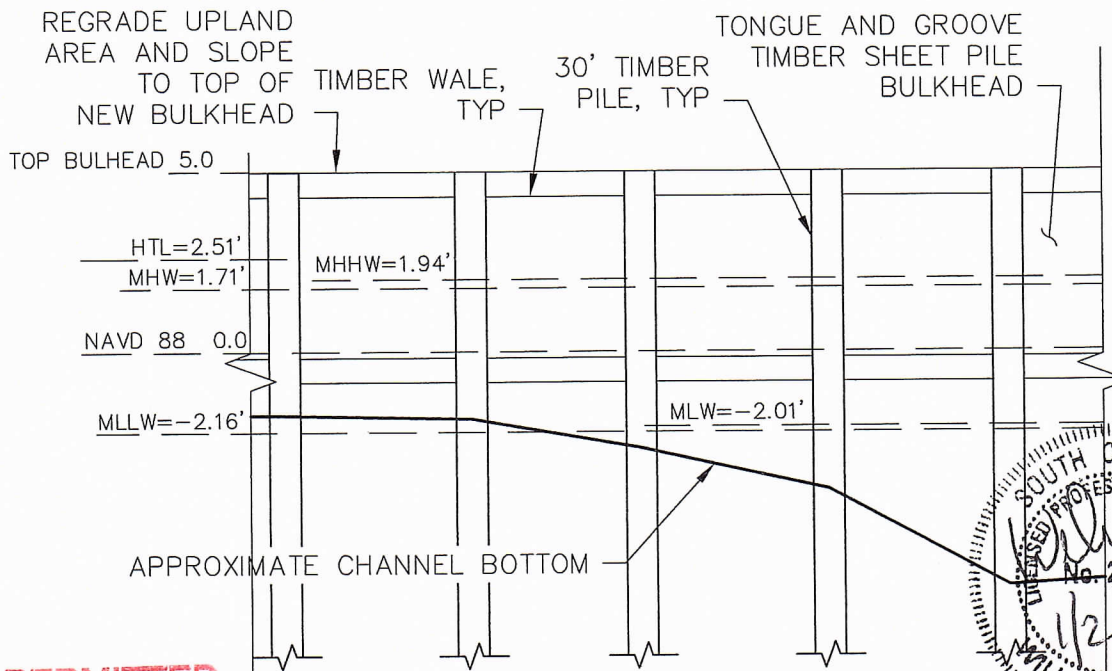
**APPLICANT**  
CITY OF GEORGETOWN  
**AGENT**  
McSWEENEY ENGINEERS, LLC

**WATERWAY:** SAMPIT RIVER  
**ON:** GEORGETOWN  
**COUNTY OF:** GEORGETOWN, SC  
**APPLICATION NO.** TBD  
**SHEET:** 6 OF 8 **DATE:** 1/2/18



TYPICAL EXISTING ELEVATION

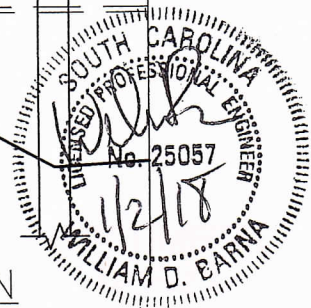
SCALE: 1" = 4'



TYPICAL PROPOSED ELEVATION

SCALE: 1" = 4'

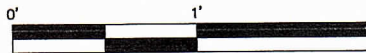
**PERMITTED PLANS**



**PURPOSE:** SHORELINE PROTECTION MAINTENANCE AND REPAIR

**ADJACENT PROPERTY OWNERS:** SEE ATTACHED SCHEDULE

**FIGURE 7**  
ELEVATIONS  
1"=4'



**APPLICANT**  
CITY OF GEORGETOWN  
**AGENT**  
McSWEENEY ENGINEERS, LLC

"Bulkhead Replacement at Constitution Park"  
SAC-2018-00063  
Georgetown, SC  
Sheet 7 of 8 March 1, 2018

DESIGNATION NO. 18D

**SHEET:** 7 OF 8

**DATE:** 1/2/18





HTL AND CRITICAL LINE = 2.51 FT (AS MEASURED AT THE SITE)

MHHW = 1.94 FT

MHW = 1.71 FT

MTL = 0.95 FT

NAVD88 = 0.00 FT

MLW = -2.01 FT

MLLW = -2.16 FT

TIDAL DATUM RELATIONSHIPS  
 (BASED ON LAND SURVEY INFORMATION AND FIELD MEASUREMENTS)



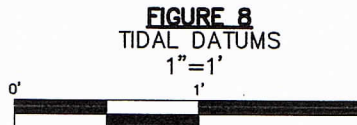
**PERMITTED  
 PLANS**

ADDITIONAL INFORMATION

SCALE: 1" = 1'

**PURPOSE:** SHORELINE PROTECTION  
 MAINTENANCE AND REPAIR

**ADJACENT PROPERTY OWNERS:**  
 SEE ATTACHED SCHEDULE



**APPLICANT**  
 CITY OF GEORGETOWN  
**AGENT**  
 McSWEENEY ENGINEERS, LLC

"Bulkhead Replacement at Constitution Park"  
 SAC-2018-00063  
 Georgetown, SC  
 Sheet 8 of 8 March 1, 2018

## 2017 Nationwide Permit

*Please read this Nationwide Permit along with the General, Regional, and Special conditions that may be associated with this permit. It is your responsibility to insure your project meets this nationwide permit and the conditions at all times. If changes are needed or if you cannot meet these requirements, please notify the Corps before proceeding with the work.*

### 3. Maintenance.

(a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP also authorizes the removal of previously authorized structures or fills. Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project. This NWP also authorizes the removal of accumulated sediment and debris within, and in the immediate vicinity of, the structure or fill. This NWP also authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays. (b) This NWP also authorizes the removal of accumulated sediments and debris outside the immediate vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.). The removal of sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization. (c) This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After conducting the maintenance activity, temporary fills must be removed in their entirety and the affected areas returned to preconstruction elevations. The areas affected by temporary fills must be revegetated, as appropriate. (d) This NWP does not authorize maintenance dredging for the primary purpose of navigation. This NWP does not authorize beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a preconstruction notification to the district engineer prior to commencing the activity (see general

condition 32). The pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (**Authorities:** Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act)

**Note:** This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act section 404(f) exemption for maintenance.



February 8, 2018

City of Georgetown  
PO Box 939  
Georgetown, SC29442

Re: Maintenance and Repair Notification

Dear Mr. Arteaga:

This is in response to your recent request to perform Maintenance & Repair to an existing bulkhead at Constitution Park at end of Orange Street, Georgetown, TMS# N/A. Specifically, you requested to replace 20' linear feet of bulkhead within the same footprint and replace 65 linear feet of bulkhead landward of the certified critical area line. This work conforms to the Department's Normal Maintenance and Repair criteria as set forth in Regulation 30-5(D).

*"Normal maintenance and repair applies only to work on a structure which has been previously permitted or is grandfathered or exempted and is still generally intact and functional in its present condition. The work may only extend to the original dimensions of the structure, and any expansion, additions, or major rebuilding will require either a Department permit or documentation to and written approval from the Department."*

***A construction placard identifying this activity under the maintenance and repair notification is enclosed. The placard should be posted conspicuously on site during maintenance and repair activities.***

Acknowledgement of this maintenance and repair request does not relieve you of your responsibility to obtain any local government permits that may be required for this work nor does it permit any activity that is not previously authorized by this agency. Please note that the Department reserves the right to require a full permit if deemed necessary. If you have any further questions concerning this matter, please do not hesitate to contact me at 843-238-4528.

Sincerely,

A handwritten signature in blue ink, appearing to read "Chris Stout", is written over the typed name.

Christopher M. Stout  
Project Manager  
Critical Area Permitting Section

Cc: Mr. Bill Barna, McSweeney Engineers

# **CONSTRUCTION EASEMENT**

STATE OF SOUTH CAROLINA )  
 ) TEMPORARY CONSTRUCTION EASEMENT  
COUNTY OF GEORGETOWN )

KNOW ALL MEN BY THESE PRESENTS, that THIS **TEMPORARY CONSTRUCTION EASEMENT**, dated November 28, 2017, is made by and between **Georgetown County, South Carolina** ("Grantor") and **the City of Georgetown, South Carolina, a municipal corporation**, ("Grantee"), both bodies corporate and politic, existing under the laws and being situate in the State of South Carolina.

**WHEREAS**, Grantor is the owner of a tract of land, such parcel having Georgetown County Tax Map No. 05-0029-083-02-00, conveyed to Georgetown County by Deed dated August 29, 2014 and recorded in the Office of the Georgetown County Registrar of Deeds at Book 2427 Page 253-257 and as depicted on a Plat recorded in the Office of the Georgetown County Registrar of Deeds at Plat Slide 10.00, attached as **Exhibit A**, ("the Tract");

**WHEREAS**, Grantee is the owner of the bulkhead and Harborwalk structure abutting and/or adjacent to the Sampit River frontage of the Tract, and is the owner of the adjacent tract to the Southeast, known as "Constitution Park"; and

**WHEREAS**, Grantor wishes to grant, and Grantee wishes to receive, a temporary easement over, under and across a portion of the Tract, more particularly described as a 36 foot x 50 foot portion, extending across and/or under the property of Grantor as depicted on **Exhibit B** solely for the purposes set forth herein.

**THEREFORE**, in consideration of the covenants contained in this Agreement and other good and valuable consideration, the receipt of which is acknowledged, the parties agree as follows:

1. Grantor grants to Grantee a temporary construction easement for the benefit of Grantee over and across that parcel of land depicted on Exhibit A ("the Tract") and more particularly described as a 36' x 50' portion of the Tract and as depicted in Exhibit B (the "Temporary Construction Easement Area") **to construct and replace the riverfront bulkhead at Constitution Park**. Grantee, and its officers, employees and agents, shall have the right to enter upon the Easement in such a manner as may be reasonably necessary for the sole purpose as above written. This Easement shall expire upon the completion of Grantee's stated purpose, but in no event shall the Easement survive beyond December 31, 2018.

2. Grantee agrees to use due care in any use of the Easement, and in the construction, installation, repair, replacement and maintenance of Grantee's construction project, including use as a staging area, so as not to unreasonably disturb Grantor's use of Grantor's property after the extinguishment of the Temporary Construction Easement.
3. Following completion of work, Grantee shall at Grantee's sole cost and expense immediately restore the property injured by Grantee's activities to the same condition as existed previous to Grantee's entry upon the property, save incidental improvements.
4. In exercising any rights and privileges under this Agreement, Grantee shall secure, maintain and comply with all required licenses, permits and certificates relating to, or otherwise necessary or appropriate for, its construction project and shall comply with applicable federal, state and local laws, rules, regulations, statutes, codes, orders and ordinances relating thereto.
5. These rights extend to Grantee's officers, agents, successors, and assigns, and are granted by Grantor to include Grantor's officers, agents, successors, lessees, or assigns. Grantor agrees to be responsible to notify any leaseholder of Grantee's Temporary Construction Easement.

TO HAVE AND TO HOLD this Construction Easement temporarily as described herein.

**[Signature Page Follows]**

SIGNED, SEALED AND DELIVERED  
IN THE PRESENCE OF:

Ollie N. Lewis  
(Notary)

[Signature]  
(Witness)

Georgetown County, South Carolina,  
Grantor

BY: [Signature]

ITS: County Administrator

STATE OF SOUTH CAROLINA )  
COUNTY OF GEORGETOWN )

**ACKNOWLEDGEMENT**

PERSONALLY appeared before me the undersigned witness and made oath that s/he saw the within named grantor sign, seal and, as his/her/their act and deed, deliver the within Deed and that s/he along with the other subscribing witness witnessed the execution thereof.

[Signature]  
(Witness from above)

Sworn to before me this  
29<sup>th</sup> day of December, 2017

Ollie N. Lewis  
(Notary from above)

Notary Public for South Carolina  
My Commission Expires: 12/22/2025



201400007590  
Filed for Record in EXEMPT  
GEORGETOWN SC  
WANDA PREVATTE, REGISTER OF DEEDS  
08-29-2014 At 01:23:53 pm.  
DEED NO FEE .00  
Book 2427 Page 253 - 257

PREPARED BY: OXNER & STACY, P.A. (rtm)  
File No. 14-1129 Daniel W. Stacy, Jr.  
(Deed Preparation Only at Request of Grantor)

STATE OF SOUTH CAROLINA )  
 )  
COUNTY OF GEORGETOWN )

TITLE TO REAL ESTATE

KNOW ALL MEN BY THESE PRESENTS, That PECAN PARTNERS, LLC, a South Carolina limited liability company, for and in consideration of the sum of ONE MILLION TWO HUNDRED FIFTY THOUSAND AND 00/100(\$1,250,000.00) Dollars to it in hand received at and before the sealing of these presents by GEORGETOWN COUNTY, A BODY POLITIC of, the receipt of which is hereby acknowledged, subject to the matters set forth below, have granted, bargained, sold and released, and by these Presents do grant, bargain, sell and release, subject to the matters set forth below, unto the said GEORGETOWN COUNTY, A BODY POLITIC, its successors and assigns, forever, the following described real property, to wit:

All that certain piece, parcel or tract of land, together with any and all improvements thereon, including buildings, parking lots, dock structures, boardwalks, piers, and other improvements, lying, being and situate in the City and County of Georgetown, State of South Carolina identified as Revised Parcel C containing 0.534 Ac. ± as shown on "Subdivision & Recombination Plat of Parcel A, B & C 1.807 Ac. ± Located at Front Street & Orange Street Tax District #5 City of Georgetown, Georgetown County, South Carolina Prepared for Pecan Partners, LLC", dated May 7, 2009, revised July 20, 2009 and again revised on July 22, 2009, prepared by Thomas & Hutton Engineering Co. and recorded on July 22, 2009 in the Office of the ROD for Georgetown County in Slide 701 at page 2. All of which will more fully appear by reference to said plat which is incorporated herein and made a part and parcel hereof.

TMS#05-0029-083-02-00

Being premises conveyed unto Pecan Partners, LLC, a South Carolina limited liability company, by deed of Front & Orange Partners, LLC, a South Carolina limited liability company dated July 24, 2009 and recorded on July 27, 2009 in Deed Book 1300 at page 279, in the Office of the ROD for Georgetown County.

GEORGETOWN COUNTY PARCEL  
# 05-0029-083-02-00  
SPB

**THIS CONVEYANCE IS MADE SUBJECT** all applicable easements, restrictions, covenants and conditions of record.

**TOGETHER** with all and singular, the Rights, Members, Hereditaments and Appurtenances to the said Premises belonging, or in anywise incident or appertaining.

**TO HAVE AND TO HOLD**, all and singular, the Premises before mentioned, subject to the matters set forth above, unto the said **GEORGETOWN COUNTY, A BODY POLITIC**, its Successors and assigns, forever.

**AND** the undersigned does hereby bind itself and its Heirs, Successors, Assigns, Executors and Administrators, to warrant and forever defend, all and singular, the said Premises unto the said **GEORGETOWN COUNTY, A BODY POLITIC**, its successors and assigns, forever, against itself and its Successors and Assigns, and all persons whomsoever lawfully claiming, or to claim the same or any part thereof; however, no warranty is made to any portion of the premises lying at or below the mean highwater mark of the Sampit River.

Grantee's Address: Post Office Box 421270, Georgetown, SC 29442

\*\*\*\*\*SEE SIGNATURES ON NEXT PAGE\*\*\*\*\*

WITNESS its Hand and Seal, this 29th day of August, in the year of our Lord Two  
Thousand Fourteen (2014).

SIGNED, SEALED AND DELIVERED  
IN THE PRESENCE OF:

PECAN PARTNERS, LLC, a South Carolina  
limited liability company

By: Hinson Properties, LLC (Member)

By: [Signature] (Corp.  
Seal)  
Keith C. Hinson, Managing Member

[Signature]  
signature of Witness  
[Signature]  
signature of Notary  
(same as Acknowledgment below)

\*\*\*\*\*

STATE OF SOUTH CAROLINA     )  
  )  
COUNTY OF GEORGETOWN     )

ACKNOWLEDGMENT

The due execution of the foregoing instrument was acknowledged before me this  
29th day of August, 2014 by Pecan Partners, LLC, a South Carolina limited liability company by  
its Member, Hinson Properties, LLC by Keith C. Hinson, Managing Member.

[Signature]  
Notary Public for South Carolina  
My Commission Expires: 2/7/2015

(affix seal)

STATE OF SOUTH CAROLINA )
COUNTY OF GEORGETOWN )

AFFIDAVIT

PERSONALLY appeared before me the undersigned, who being duly sworn, deposes and says:

- 1. I have read the information on this affidavit and I understand such information.
2. The property being transferred is 901, 903, 905, 907 & 909 Front Street, Georgetown, SC, Georgetown County Tax Map Location No. 05-0029-083-02-00 was transferred by Pecan Partners, LLC, a South Carolina limited liability company to Georgetown County, a Body Politic on August 29, 2014.
3. Check one of the following: The deed is
(a) subject to the deed recording fee as a transfer for consideration paid or to be paid in money or money's worth.
(b) subject to the deed recording fee as a transfer between a corporation, a partnership, or other entity and a stockholder, partner, or owner of the entity, or is a transfer to a trust or as a distribution to a trust beneficiary.
(c) X exempt from the deed recording fee because (See Information section of affidavit): Exemption Number 2 (If exempt, please skip items 4 - 7, and go to item 8 of this affidavit.
4. Check one of the following if either item 3(a) or item 3(b) above has been checked (See Information section of this affidavit):
(a) The fee is computed on the consideration paid or to be paid in money or money's worth in the amount of \$
(b) The fee is computed on the fair market value of the realty which is \$.
(c) The fee is computed on the fair market value of the realty as established for property tax purposes which is \$.
5. Check Yes or No X to the following: A lien or encumbrance existed on the land, tenement, or realty before the transfer and remained on the land, tenement, or realty after the transfer. If "Yes," the amount of the outstanding balance of this lien or encumbrance is: \$.
6. The deed recording fee is computed as follows:
(a) Place the amount listed in item 4 above here: \$-0-
(b) Place the amount listed in item 5 above here: \$-0- (If no amount is listed, place zero here.)
(c) Subtract Line 6(b) from Line 6(a) and place result here: \$-0-
7. The deed recording fee due is based on the amount listed on Line 6(c) above and the deed recording fee due is: \$-0-.
8. As required by Code Section 12-24-70, I state that I am a responsible person who was connected with the transaction as: Grantor.
9. I understand that a person required to furnish this affidavit who wilfully furnishes a false or fraudulent affidavit & guilty of a misdemeanor and, upon conviction, must be fined not more than one thousand dollars or imprisoned not more than one year, or both.

SWORN to before me this 29th day of August, 2014.

Notary Public for South Carolina My Commission Expires: 2/7/2015

Responsible Person Connected with the Transaction Pecan Partners, LLC, a South Carolina limited liability co. By Hinson Properties, LLC by Keith C. Hinson, Managing Member

Instrument 201400007390 Book Page 2427 257

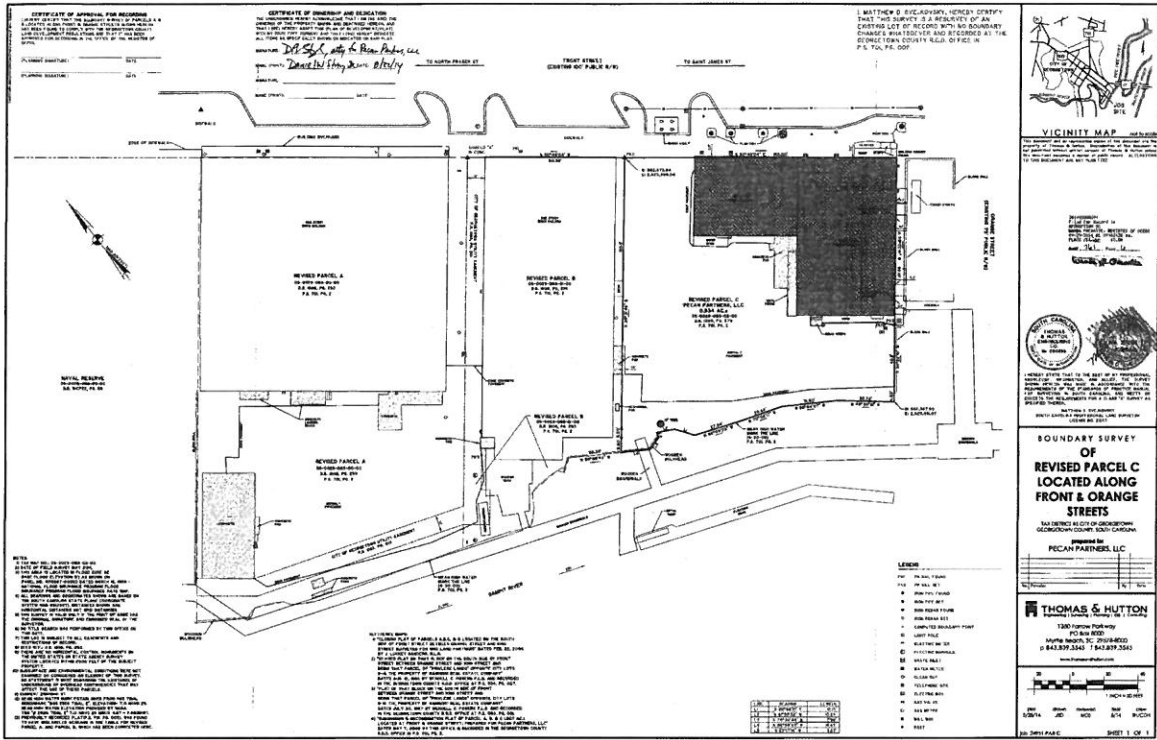
142439 Phelan

201400007390  
Filed for Record in  
GEORGETOWN SC  
WANDA PREVATTE, REGISTER OF DEEDS  
08-29-2014 At 01:23:53 pm.  
DEED NO FEE  
Book 2427 Page 253 - 257  
Wanda P. Prevatte

RECORDED THIS DATE

*Brian D. Shult*

BRIAN D. SHULT





Temporary  
Construction  
Easement  
36' x 50'

114 Orange St  
110 Orange St

104 Orange St

830 Front St

822 Front St

814 Front St

812 Front St

806 Front St

809 Front St

807 Front St

805 Front St

801 Front St

815 Front St

ORANGE ST

FRONT ST

906 Front St

904 Front St

902 Front St

908 Front St

910 Front St

914 Front St

912 Front St

909 Front St

835 Front St

833 Front St

829 Front St

823 Front St

911-917 Front St

919-929 Front St