

AIKEN COUNTY GOVERNMENT

Aiken-Jackson Public Boat Landing Bank Stabilization



Prepared by:
Aiken County Department of Engineering
1930 University Parkway, Suite 3300
Aiken, S.C. 29801
Office: (803) 642-1535
Main Fax: (803) 642-3684
April 25, 2016

TABLE OF CONTENTS

Aiken-Jackson Public Boat Landing Bank Stabilization

<u>Description</u>	<u>Page No.</u>
Table of Contents	TC-1

GENERAL DOCUMENTS

Locator Map / Plan Profile & Detail Sheet	
Invitation to Bid	INVB-1 thru INVB-2
Instruction to Bidders	IB-1 thru IB-8
General Conditions	GC-1 thru GC-14
Bid	B-1-thru B-2
Construction Agreement (Example) – To be prepared by County	CA-1 thru CA-3
Performance Bond (Example) – To be prepared by County	PB-1 thru PB-2
Payment Bond (Example) – To be prepared by County	PMB-1 thru PMB-2
Preconstruction Conference	PRECON

SPECIFICATIONS

<u>SECTION</u>	<u>CONTENT</u>	<u>PAGE NO.</u>
South Carolina Department of Natural Resources		Attachment

Aiken County Government
Aiken-Jackson Public Boat Landing Bank Stabilization

Invitation to Bid

Project Description: Aiken County Government is requesting Sealed Bids to stabilize and improve the eroding shore line adjacent to the Jackson Boat Landing as shown on the plan(s) prepared by South Carolina Department of Natural Resources dated February 16, 2016. **Contractor shall have experience in constructing this particular type of project.** The Bids must be submitted as stated on the attached Aiken County Sealed Bid Document. Any questions concerning the bid should be directed to procurement@aikencountysc.gov.

Plans, Specifications, and Contract Documents: Plans, Specifications, and Contract Documents may be obtained from the Aiken County Procurement Department (1930 University Parkway, Aiken, SC. 29801, phone (803) 642-1540. There will be a non-refundable \$25.00 charge for the Bid Documents.

Special Conditions

Conditions of Work: The Contractor must have informed himself fully of the conditions relating to the construction of this project and the employment of labor thereon, to have inspected the site, and to have read and become familiar with all the bid documents, contract documents, and plans/sketches. Failure or omission to do so will not relieve a successful bidder of his obligation to furnish all material, equipment, and labor necessary to carry out the provisions of his contract. Insofar as possible, the Contractor in carrying out his work must employ such methods and/or means as will not cause any interruption of or interference with the work of other contractors.

Restrictions: Contractor will need to work within the easements and right-of-way. Coordination shall be through the County Engineer's Office.

Safety Devices: Contractor shall provide all needed barricades and signs for safety and remove trash and debris from the work area daily.

Damage to Property: Contractor shall be responsible for and immediately take action to repair or replace any damage adjacent to existing owner property for any reason.

Utilities: Any needed utilities shall be at the expense of the Contractor.

References: References shall be provided upon request to confirm that the successful bidder is capable of performing and completing this project in a timely manner under specified conditions.

Warranty Period: The warranty period for this project is *one (1)* year on labor and materials against defects and workmanship. This warranty period shall commence upon owner's final approval of the entire work.

Licenses & Permits: The Contractor is to obtain any licenses or permits required to perform this work at no additional expense to the Owner.

Insurance: Proof of Liability Insurance and Workmen's Compensation Insurance must be provided prior to commencing work.

Sketches: Sketches are provided for the purpose of bidding and not necessarily for detailed construction. All materials to be used are to be approved by the County Engineer prior to installation. In the case of an inconsistency between the sketches and specifications or within either document, the better quality or greater quantity of work shall be provided in accordance with the interpretation of the County Engineer.

Time of Completion: The time of completion is (90) calendar days, and availability of all items must be confirmed prior to commencing work. Liquidated damages are **five hundred (\$500.00) dollars** per calendar day. Written requests for additional time caused by unforeseen delays will be considered only if submitted in writing within ten (10) calendar days of event causing the delay. The work must commence 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 consecutive days thereafter, excluding major holidays.

Waiver of Lien: At the completion of the project, a Waiver of Lien (Form provided by the County Engineer) shall be submitted to the County Engineer with the final Pay Request.

Security for Faithful Performance: A Performance Bond of 100% of Bid and a Payment Bond for 100% of Bid shall be required. The Owner shall retain and hold ten (10) per cent from each pay request until all work has been completed and approved by the County Engineer and a Waiver of Lien submitted stating that all vendors have been paid for materials, labor, and supplies. See Bid Security and Bonds in the Instructions to Bidders Section.

OWNER

Aiken County Government
1930 University Parkway
Aiken, SC 29801
Telephone: (803) 642-1535
Facsimile: (803) 642-3684

Instructions to Bidders

1. **Intention:** It is intended that the Instructions to Bidders, Special Conditions, General Conditions, Detail Construction Specifications and Drawings shall cover the complete work to which they relate.
2. **Definitions:** Where the following words or pronouns used in their stead occur herein, they shall have the following meaning:

"Owner" shall mean AIKEN COUNTY, SOUTH CAROLINA, party of first part to the following agreement, or its authorized and legal representatives.

"Engineer" shall mean THE COUNTY ENGINEER FOR AIKEN COUNTY, S.C.

"Contractor" shall mean the party of the second part to the following agreement, or the legal authorized representatives of such party.
3. **Scope of Work:** The work to be done consists of furnishing all materials and equipment and performing all labor necessary for completion of the work as set forth in the Bid, as shown on the Drawings, and as specified.
4. **Materials and Work by Owner:** The Owner will furnish and perform no labor for construction of the work under this contract except what is noted in the Special Conditions under "Work By County Forces."
5. **Contractor's License and Taxes:** Bidders must satisfy the requirements of all applicable South Carolina statutes, regulations and ordinances pertaining to bidders, contractors, licenses, permits, fees and taxes, including but not limited to Sections 40-11-10, et seq, Code of Laws of South Carolina, 1976, as amended. *The General Contractor's License number must be shown in the space provided in the Bid.*
6. **Site Examination:** The Bidder is expected and directed to examine the location of the work and to inform himself fully as to the structural and mechanical conditions; the conformation of the ground; the soil conditions; the character, quality and quantity of the materials to be encountered; the character of equipment and facilities needed preliminary to and during the prosecution of the work; the general and local conditions; and all other matters which can in any way affect the work to be done.
7. **Sub-Surface Conditions:** A sub-surface investigation has not been made on any portion of the work, and the Owner and Engineer make no representation or express any opinion on such conditions. Excavation for the project is unclassified for rock. The contractor shall include in his bid all cost of excavation and removal and replacement of unsuitable materials. The contractor shall make his own analysis of the materials to be encountered, and include prices for removal and replacement of these materials in his unit prices for construction unless allowances for removal and replacement are provided in the Bid. It is expected that quantities may be significantly less or greater than shown in the Bid since Bid quantities are established without any knowledge of the underground conditions, and it would be unusual for the quantities to be close to those actually encountered. The prospective bidder must form his own opinion of the character of the sub-surface materials to be encountered in excavating

for construction of the various facilities and completing the work, and include all costs and charges therefore in his bid.

8. **Bids:** All Bids must be made upon the Bid forms hereto annexed and shall be for materials and work shown on the Drawings and/or specified. Bid forms shall not be detached from the bound documents. Bid prices must be stated for each item for which a Bid is made. Documents are to be enclosed in a sealed envelope, addressed to:

AIKEN COUNTY GOVERNMENT
ATTN: PROCUREMENT DEPARTMENT
1930 UNIVERSITY PARKWAY, SUITE 3205
AIKEN, SOUTH CAROLINA 29801

If forwarded by mail or courier, the sealed envelope containing the Bid shall be enclosed in another envelope or courier container also addressed as specified.

- (a) **Unit Price Items:** The itemized quantities given in the Bid for unit price work shall be considered by the Contractor as the quantities required to complete the work. When the actual quantities required in the construction of the work are greater than or less than the quantities shown in the items, the amount equal to the difference in quantities at the unit prices bid for amount shall be paid.
- (b) **Lump Sum Prices:** Where itemized prices are not given in the Bid, the Contractor shall consider the lump sum prices bid for the work shown on the Drawings and/or specified to be sufficient for completion of his Contract.
- (c) **Total Amount Bid:** The correct total amount bid is defined as the correct sum total of the amount bid for the items in the Bid. The correct amount bid for each unit price item is defined as the product of the quantity listed in the Bid for the item, multiplied by the unit price bid.
9. **Extra Work Items in the Bid:** The Bid may contain certain unit price items entitled "Extra Work, If Ordered by the Engineer". In each such item, the estimated quantity is based on the average amount of extra work encountered in a typical job. The stated quantities are not guaranteed, but are included in the Bid in order to determine, in advance of construction, the actual low Bidder. No work included in such items will be authorized for payment without advance authorization of the work by the Engineer.
10. **Bid Security and Bonds:** A Bid Bond shall be required in an amount equal to not less than five per cent (5%) of the amount of the bid to guarantee that the successful bidder will,

within ten (10) days from the date of the notice of awarded Contract, enter into a contract with the Owner, and execute to the Owner a Performance Bond and Payment Bond, the contract and bonds to be in the form set forth in this book. If, for any reason whatever, the Bidder withdraws from the competition after the bids have been opened, or refuses to execute the required contract and bonds, if his bid is accepted, the Owner may retain the amount of the certified check, or proceed against the bid bond. The surety on the Bid Bond and Performance and Payment Bonds shall be a surety company authorized to do business in the State where the project is located. Attorneys-in-fact certified, proper and effectively dated copy of their power of attorney. Performance and Payment Bonds shall be countersigned by an agent residing in the State, County, or City of the Owner, if required. Bonds and the surety thereon shall be subject to approval by the Attorney for the Owner.

11. **Bids Opened in Public:** Bidders are invited to be present at the opening of Bids, which will be in public.
12. **Right to Reject Bids:** The Owner reserves the right to reject any or all bids and to waive informalities. No bids will be received after the time set for opening Bids. Any Bidder may change or withdraw his bid, either personally or by telegraphic or written request, at any time prior to the scheduled closing time for receipt of bids, but no bid shall be changed or withdrawn by telegraph or mail received after the time set for opening Bids.
13. **Determination of Low Bid:** The contract will be awarded, if it is awarded, to the responsible and responsive Bidder or Bidders submitting the lowest bid. The Owner, in its sole discretion, will decide which is the lowest responsible and responsive Bidder. In determining a responsible Bidder, the following elements, among other things, may be considered: whether the Bidder involved (a) maintains a permanent place of business; (b) has adequate plant equipment to do the work properly and expeditiously; (c) has a suitable financial status to meet obligations incident to the work; and (d) has appropriate technical experience on projects of similar scope and types of work and experienced, qualified personnel. In determining a responsive Bidder, the following elements will be considered: (a) the completeness and regularity of the Bid Form; (b) Bid Form without excisions or special conditions, and, (c) a Bid Form having no alternative bids for any items unless requested in the technical specifications.
 - (a) The Bidder, if requested by the County Engineer, shall list prices of at least two manufacturers of each item of major equipment if listed on the Bid Form. Use lowest price for base bid. If the "make" of any item listed in the base bid column does not meet specifications, the next lowest priced "make" listed for that item which does meet specifications will be used in determining the lowest bid price. If all of the listed "makes" of the item fail to meet specifications, as determined above, the Bidder will be so notified and he may, within 48 hours of such notification, submit a make or makes of equipment which will meet the specification for the base price originally listed in the Bid. Otherwise, the Bid will be rejected on the grounds that it is non-responsive.

(b) The Owner has the right to apply any or all "Deductions or Additions", if any, listed in the Bid by the Engineer, for the purpose of making an award.

14. **Return of Bid Security:** Subject to the provisions of paragraph 10, the Owner will, within ten (10) days following the Bid opening date, return the certified check of all Bidders, except the certified checks posted by the three lowest Bidders; upon final award and execution of the Contract, the remaining certified checks will be promptly returned. Bid Bonds will not be returned unless requested.
15. **Interpretation of Drawings and Specifications:** If any person contemplating submitting a bid for the project is in doubt as to the true meaning of any part of the Drawings, Specifications, or other Contract Document, or as to the scope of any part of the work, he shall submit to the Engineer a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery in ample time for an interpretation to be issued before bid opening date. Interpretations of the documents will be made only by Addendum, and a copy of that Addendum will be mailed or delivered to each person receiving a set of the documents. The Owner and Engineer will not be responsible for other interpretations of the documents.
16. **Complete Work Required:** The Specifications, the Drawings and all supplemental documents are essential parts of the Contract, and requirements occurring in one are as binding as though occurring in all. They are intended to be complementary and to describe and provide for the complete work. In case of omissions from the Specifications as to items of equipment and materials or quantities therefore, the Drawings shall govern. In case of discrepancy in the Drawings, figured dimensions shall govern. It shall be the responsibility of the Bidder to call to the attention of the Engineer those omissions having a magnitude, which would affect the strength, adequacy, function, completeness and cost of any part of the work in ample time for amendment by Addendum prior to the Bid opening date.
17. **Drawings:** The character and location of the work, together with the essential details, are shown upon the Drawings.
18. **Working Drawings:** Working drawings shall consist of those detail drawings which may be required for prosecution of the work, but which are not included in the Contract Drawings. Six copies of all necessary working drawings shall be submitted by the Contractor to the Engineer unless additional copies are included in the submittal. Working drawings shall include shop details of manufactured equipment, products to be used, and all other drawings as may be required by the Specifications, and as may be necessary for the successful completion of the work. Review and approval by the County Engineer must be obtained before work involving working drawings may be performed.

(a) **Check by Contractor:** The Contractor shall check all working drawings for accuracy of dimensions and details, and for conformance with Contract Drawings and Specifications before submitting working drawings to the Engineer for review. The

Contractor shall indicate that working drawings have been checked by affixing an appropriate stamp or notation on the face of the working drawings. Deviations from the Plans and Specifications shall be clearly and specifically called to the Engineer's attention in a written statement accompanying the drawings.

(b) **Responsibility for Accuracy:** Review by the Engineer of the Contractor's working drawings shall not relieve the Contractor of responsibility for accuracy of dimensions and details. The Contractor shall be responsible for agreement and conformity of working drawings with the Contract Drawings and Specifications.

(c) **Payment:** The contract price shall include the cost of furnishings all working drawings, and the Contractor shall be allowed no extra compensation for furnishing those drawings.

19. **Cooperation of Contractor:** The Contractor will be supplied with five (5) copies of the Drawings and Specifications. The Contractor shall have available on the work, at all times, one (1) copy of the Drawings and Specifications. He shall give the work the constant attention necessary to facilitate the progress thereof, and shall cooperate with the Engineer and other contractors in every way possible.
20. **Construction Stakes:** Subsidiary lines and grades shall be laid out by the Contractor from the controlling lines and bench marks established by the Engineer, or from measurements shown. All lines and grades shall be subject to checking by the Engineer, but that checking shall in no way relieve the Contractor from responsibility for their labor and assistance as the Engineer may require in laying-out work, establishing bench marks, and checking and measuring the work.
21. **Authority and Duties of Inspector:** Inspectors shall be authorized to inspect all work done and all materials furnished, including preparation, fabrication, and manufacture of the materials to be used. The inspector shall not be authorized to alter or waive requirements of the Drawings and Specifications. He shall call the attention of the Contractor to failure of the work and/or materials to conform to the Drawings and Specifications. He may reject materials or suspend work until questions at issue can be referred to, and be decided by the Engineer. The presence of the inspector shall in no way lessen the responsibility of the Contractor.
22. **Inspection:** The Contractor shall furnish the Engineer with every reasonable facility for ascertaining whether or not the work performed and materials used are in accordance with the requirements and intent of the Specifications and Drawings. No work shall be done or materials used without suitable supervision or inspection by the Engineer or his representative. Failure to reject defective work and materials shall neither, in any way, prevent later rejection when those defects are discovered, or obligate the Owner to any final acceptance.
23. **Rejection of Work and Materials:** All materials furnished and work done when not in accordance with the Specifications and Drawings will be rejected, shall be immediately removed, and other work shall be done and materials furnished in accordance therewith. If the Contractor fails to remove the work and materials within forty-eight (48) hours after having been ordered to do so, then the Owner shall have the right and authority to

stop the Contractor and his work at once until the Contractor removes the work and materials.

24. **Defective Materials and Work:** The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill the Contract. Defective work shall be made good by the Contractor, notwithstanding that such work and materials have been previously inspected by the Engineer and accepted or estimated for payment. Failure by the Engineer to condemn or reject improper materials and workmanship shall be considered neither as a waiver of defects, which may be discovered late, nor as preventing the Owner at any time subsequently from recovering damages for work actually defective. All work shall be guaranteed against defects in workmanship and materials for a minimum period of one year from date of Owner acceptance.
25. **Corrections:** Should any portion of the Drawings and specifications be obscure or in dispute, they shall be referred to the Engineer, and he shall decide as to the true meaning and intent. He shall also have the right to correct errors and omissions at any time when those corrections are necessary for the proper fulfillment of the Drawings and Specifications.
26. **Disagreement:** Should any disagreement or difference arise as to the estimate, quantities, or classifications, or as the meaning of the Drawings and/or Specifications, on any point concerning the character, acceptability, and nature of the several kinds of work and materials and construction thereof, the decisions of the Engineer shall be final, conclusive, and binding upon all parties to the Contract.
27. **Weather:** During unseasonable weather, all work must stop when the Engineer so directs, and all work must be suitably protected.
28. **Land and Rights-of-Way:** The Owner will 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. 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. The Owner will provide no right-of-way over other property. The Contractor shall take every precaution to inconvenience as little as possible the owners or tenants of adjacent property. Public Highways shall not be obstructed. Expense shall be borne by the Contractor to repair or pay for any damage or injury to either private or public property during progress of the work.
29. **Competent Labor:** The Contractor shall employ only competent and skilled personnel on the work. The Contractor shall at all times have a Superintendent, satisfactory to the Engineer, capable of acting as the Contractor's agent of the work, and who shall receive instructions from the Engineer or his authorized representative. The Superintendent shall have full authority to execute the orders and directions of the Engineer without delay, and

to promptly supply these materials, tools, plant equipment, and labor as may be required. The Contractor shall, upon demand by the Engineer, immediately remove that Superintendent, Foreman, and Workmen whom the Engineer may consider to be incompetent or undesirable, or both.

30. **Laws, Regulations, and Permits:** The Contractor shall comply with all applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the work specified herein. Permits and licenses necessary for construction of the work shall be secured and paid for by the Contractor.
31. **Sales Tax:** Bidders shall include in the Bid an allowance for payment of State Sales Tax on all taxable materials specified to be furnished by the Contractor and incorporated into the work under this Contract.
32. **Sanitary Facilities:** Necessary sanitary facilities for the use of personnel on the work shall be erected and maintained by the Contractor in such manner and at such points as shall be approved by the Engineer. Facilities shall be maintained in sanitary conditions and in strict accordance with the applicable regulations. No unsanitary act shall be committed outside sanitary facilities.
33. **Storage Facilities:** Should the Contractor so desire, he may build storage facilities for housing tools, machinery and supplies, but those facilities will be permitted only at places approved by the Engineer, and their surroundings shall be maintained at all times in a sanitary and satisfactory manner. On or before completion of the work, those facilities shall be removed at the expense of the Contractor.
34. **Water, Sewer, and Electric Power Supply:** The Contractor shall make his own arrangements for water, sewer, and electric power supply for his construction operations.
35. **Access Roads:** Streets, roads and drives used by the Contractor for access to and from the job site shall be protected from damage in excess of that caused by the normal traffic of vehicles used for, or in connection with, construction work. Project-related damages shall be repaired immediately, and the area shall be left in good condition at the end of the construction period.
36. **Order of Work:** The prosecution, order and sequence of the work shall be as provided herein, or as approved by the Engineer, but that approval shall in no way affect the responsibility of the Contractor.
37. **Protective Works:** The Contractor shall furnish and install all necessary temporary signage for the protection of the work, including lights at night, barricades, and warning signs.
38. **Safety Regulations:** The performance of work under this Contract shall comply with safety regulations prescribed by the Owner, those of the National Occupational Safety and Health Act of 2011, and the requirements of the State where project is located. Each Bidder shall examine and satisfy himself as to the character and extent of these regulations.

39. **Allowable Time for Completion:** The time allowed for completion of all work as stated in the Bid and Construction Agreement shall be as specified in consecutive calendar days after notifications by written order from the Engineer to proceed with the work. Such notifications will be issued upon completion of execution of the contract documents.
40. **Liquidated Damages:** The Contractor shall pay to the Owner as liquidated damages the sum of five hundred dollars (\$500.00) for each calendar day that the Contractor shall be in default of completing the work within the time limit stated within the Bid.

END INSTRUCTION TO BIDDERS

GENERAL CONDITIONS

1. **Contract Security:** The Contractor must furnish two Security Bonds (forms attached) each in an amount at least equal to one hundred percent (100%) of the contract price, one as a security for the faithful performance of this Contract and one for the payment of all persons performing labor and furnishing materials in connection with this Contract. The Surety on each Bond must be a surety company satisfactory to the Owner, duly authorized to do business in the State of South Carolina. The Bonds must be countersigned by an agent who is a resident of the State, County or City of the Owner, if required. The person executing the Bond on behalf of the surety must file with the Bond a general power of attorney unlimited as to amount and type Bond covered by such power of attorney, and certified to by an official of said surety.

2. **Contractor's and Subcontractor's Insurance:** The Contractor must 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. All certification of insurance and policies must contain the following clause: "The insurance covered by this Certificate will not be canceled or materially altered unless at least thirty (30) days prior written notice has been given to the Owner".

(a) **Compensation Insurance:** The Contractor must procure and must maintain during the life of this Contract, including the entire period of the Contractor's Warranty, Workmen's Compensation Insurance for all of the employees engaged, or to be engaged, in work on the project under this Contract; and in any case any such work is sublet, the Contractor must require the subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees engaged, or to be engaged, in such work unless such employees are covered by the protection afforded by the Contractor's Workmen's Compensation Insurance. In case any class of employees engaged in hazardous work on the project under this Contract is not protected under the Workmen's Compensation Insurance Statute, the Contractor must provide Workmen's Compensation coverage for and hold harmless the Owner for the protection of such of his employees not otherwise protected.

(b) **Public Liability, Property Damage, and Automobile Liability**

Insurance: The Contractor must take out, and maintain during the life of this Contract, including the entire period of the Contractor's Warranty, Comprehensive General Liability Insurance, including products and completed operations, XC and U coverage; the ISO Broadform General Liability endorsement to its equivalent thereof; Automobile Liability Insurance; and such other insurance as the Owner may direct and must protect him and any subcontractor performing work covered by this contract from claims for damage for personal injury, including accidental death, as well as from claims for property damage, which may arise from operations under this Contract, whether such operations be by the insured or by anyone directly or indirectly employed by them. The Owner must be listed as an additional Insured on all such policies and certificates of insurance. The amount of such insurance must be as follows:

(1) **Bodily Injury Insurance** in an amount of not less than \$500,000 for bodily injury, including accidental death to any one person, and subject to the same limit for each person, in an amount not less than \$1,000,000 on account of one accident.

(2) **Property Damage Insurance** in an amount not less than \$500,000 for any one damage claim, and in an aggregate amount up to \$1,000,000 during a period of twelve (12) months.

(3) **Automobile Liability Insurance:**

- a. For bodily injury, including accidental death to any one person in an amount not less than \$500,000 and subject to the same limit for each person, in an amount not less than \$1,000,000 on account of one accident.
- b. For property damage in an amount not less than \$500,000 for any one damage claim and in an aggregate amount up to \$1,000,000 during a period of twelve (12) months.
- c. **Owner's Protective Liability Insurance:** The Contractor must provide a policy issued in the name of the Owner for liability and property damage in the same amounts as required for the Contractor.
- d. **Umbrella Policy:** Umbrella coverage must be obtained if required, to provide for an increase in basic policy coverage to an amount not less than \$1,000,000.
- e. **Builder's Risk or Installation Floater Insurance (Fire and Extended Coverage):** The Contractor must insure all work against loss or damage by fire and against loss or damage covered by the standard extended coverage insurance, and the amount of the insurance at all times must be at least equal to the amount paid on account of work and materials. The policies must be in the names of the Owner and the Contractor as their interests may appear.
- f. **Proof of Coverage of Insurance:** The Contractor must furnish the Owner with certificates showing satisfactory proof of carriage of the insurance required before commencing work on this contract. Certificates of insurance for subcontractors are not required to be submitted to the Owner.
- g. **Scope of Insurance:** The insurance required under sub-contractors (b), (c) and (d) hereof must provide protection for the Contractor and his subcontractors respectively, as well as the Owner, against damage claims which may arise in any way from operations under this Contract, whether such operations be by the insured or by anyone directly or indirectly employed by him.
- h. Nothing contained in this contract or any document forming a part hereof or attached thereto, shall be construed to, change or increase the limitations on the liability of the Owner set forth in the South Carolina Tort Claim Act.

3. Accident Prevention: Precaution must be exercised at all times by the Contractor for the protection of all persons, including employees and property. Hazardous conditions must be guarded against or eliminated.

The Contractor shall be responsible for all injuries or damages to persons or property, and shall defend, indemnify, save and hold harmless the Owner, its officers, employees and agents, from all damages, attorneys' fees and costs by reason of injury to person or property resulting from performance of the work or in guarding the same, or from any improper materials, implements, or appliances used in its construction, or on account of any act or omission of the Contractor and sub-contractor, their agents or employees. The whole or as much of the monies due under, and by virtue, of this Contract as may be considered necessary by the Owner shall or may be retained by the Owner until all suits or claims for damages shall have been settled, and evidence to that effect furnished to the satisfaction of the Owner.

(a) In emergencies affecting the safety of persons, the work or property at the site or adjacent thereto, the Contractor without special instruction or authorization from the Engineer or Owner, must act to prevent threatened damage, injury or loss. The Contractor must make prompt written notice to the Engineer and Owner of any changes in the work or deviations from the Contract Documents caused thereby.

(b) Safety and health facilities and procedures must be in accordance with the requirements of the National Occupation Safety and Health Act of 1970, (OSHA), and subsequent amendments. The Contractor must comply with the Department of Labor's Safety and Health Regulations for construction promulgated under the National Occupational Safety and Health Act of 1970 (P.L. 91-596), and under Section 107 of the Contract Work Hours and Safety Standard Act (P.L. 91-54), and subsequent amendments. The Contractor must comply with OSHA Hazard Communication Standard, Title 29 Code of Federal Regulations 1910.1200, by compiling a master hazardous chemical list (including locations), expanding MSDS's, ensuring that containers are labeled, and providing employee training.

4. Laws of the Place: The Contractor must conduct the construction as defined in the Bid in accordance with the applicable national, state, county, and municipal laws, ordinances and regulations. The Contractor must keep himself fully informed of those laws, ordinances, and regulations which would, in any way, affect those engaged and employed in the project, the materials used in the project, and the conduct of the project; and informed of all orders and decrees of bodies and tribunals having jurisdiction and authority over the project. If discrepancies, or inconsistencies, or both, should be discovered in the Construction Agreement, Drawings, or Construction Specifications, or combination thereof, in relations to laws, ordinances, regulations, orders and decrees, the Contractor must forthwith report the fact, in writing, to the Owner. The Contractor must protect and indemnify the Owner, his officers, agents and employees, against claims and all liabilities arising from, or based on, the violation of those laws, ordinances, regulations, orders, and decrees, whether by the Contractor or by his employees or agents.

5. Payment of Contractor:

(a) Not later than 30 days after pay requests are promptly and properly submitted, the Owner will make a partial payment to the Contractor on the basis of a duly certified and approved estimate of the work performed during the preceding performance of this

Contract. The Owner will retain ten percent (10%) of the amount of each estimate until such time that all work has been completed and approved by the County Engineer and a Waiver of Lien submitted stating that all vendors have been paid for materials, labor and supplies.

(b) In preparing estimates, the material not subject to deterioration delivered on the site and preparatory work done will be taken into consideration for inclusion on the partial payment request. The amount of eligible on-site material included in the partial payment shall be reduced by ten percent (10%) of the amount of the material cost as shown on the submitted material invoice.

(c) All material and work covered by partial payments made shall thereupon become the sole property of the Owner, but this provision must not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the Owner to require the fulfillment of all of 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 demands of subcontractors, laborers, workers, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies including commissary, used in the furtherance of the performance of this contract. The Contractor must 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 said Contractor, either pay unpaid bills, of which the Owner has written notice, directly, or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such 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 the Owner shall not be liable to the Contractor for any such payments made in good faith.

6. Payment by Contractor: The Contractor shall pay

(a) For all transportation and utility services no later than 20 days following that month in which services are rendered;

(b) For all materials, tools, and other expandable equipment not less than ninety percent (90%) of the cost thereof, no later than 20 days following that month in which such materials, tools, and equipment are delivered at the site of the project; and

(c) To each of his subcontractors, no 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 such subcontractors' interest therein.

7. Subcontracting:

(a) The Contractor may utilize the services of specialty sub-contractors on those parts of the work which, under normal contracting practices, are performed by specialty subcontractors.

(b) The Contractor must not subcontract the complete work, or any major portion thereof, and must not award any work to any subcontractor without prior written approval by 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 must contain such information as the Owner may require.

(c) The Contractor shall be as fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

(d) The Contractor must cause appropriate provisions to be inserted in all subcontracts relative to the work to bind sub-contractors to the Contractor by the terms of the General Conditions and other Contract Documents insofar as applicable to the work of subcontractors, and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provisions of the Contract Documents.

(e) The Contractor must indemnify and save the Owner and the Owner's agents harmless from all claims growing out of the lawful demands of subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, tools and all supplied, incurred in the furtherance of the performance of the work.

(f) Nothing contained in this Contract shall create any contractual relationship between any subcontractor and the Owner.

8. Assignments: The Contractor must not assign the whole or any part of this Contract, or any monies due, or to become due hereunder without written consent by the Owner. In case the Contractor assigns all, or any part of any monies, or to become due under this Contract, the instrument of assignment must contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due, or to become due, to the Contractor shall be subject to prior liens of all persons, firms, and corporations for service rendered or materials supplied for the performance of the work called for in this Contract.

9. Time for Completion and Liquidated Damages:

(a) It is hereby understood, and mutually agreed, by and between the Contractor and the Owner, that the date of beginning, rate of progress, and the time for completion 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" and completed within the time period specified herein above. The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will

assure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for completion of the work described herein is a reasonable time for the completion of same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

(b) IF THE SAID CONTRACTOR SHALL NEGLECT, FAIL OR REFUSE TO COMPLETE THE WORK WITHIN THE TIME HEREIN SPECIFIED, then the Contractor does hereby agree, as a part consideration for the awarding of this Contract, to pay to the Owner the amount specified in the Contract not as a penalty, but as liquidated damages for such breach of Contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract for completing work. The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages which the Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain.

(c) It is further agreed that time is of the essence of each and every portion of this Contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where an additional time is allowed under the contract for the completion of any work, the new time limit fixed by such extension shall be of the essence of this Contract.

(d) The Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due:

- i. To any preference, priority, or allocation order duly issued by the government.
- ii. To unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes and unusually severe weather.
- iii. To any delays of subcontractors occasioned by any of the causes specified in subsections (a) and (b) of this article.

Provided that within seventy-two (72) hours from the beginning of such delay, the Contractor must notify the Owner in writing of the causes of the delay. The Owner, shall then ascertain the facts and the extent of the delay and notify the Contractor within a reasonable time of its decision in the matter.

10. Construction Schedule and Periodic Estimates:

(a) Immediately after execution and delivery of the Contract, and before the first partial payment is made, the Contractor must deliver to the Owner an estimated construction progress schedule in a form satisfactory to the Owner, showing

- i. The proposed dates of commencement and completion of each of the various subdivisions of work required under the Contract Documents and

- ii. The anticipated amount of each monthly payment that will become due to the Contractor in accordance with the progress schedule.

(b) The Contractor must also furnish on forms acceptable to the Owner:

- i. A detailed estimate giving a complete breakdown of the Contract price and
- ii. Periodic itemized estimates of work done for the purpose of making partial payments thereon.

The costs employed in making up any of these schedules will be used for determining the basis of partial payments and will not be considered as fixing a basis for additions to or deductions from the contract price.

11. Responsibility of Contractor: If, through acts of neglect on the part of the Contractor, any other Contractor, or any subcontractor 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 will so settle. 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 must defend and indemnify and save and hold harmless the Owner against any such claim.

12. 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 work of the kind bid upon shall be paid for at the price stipulated in the Bid, and no claims for any extra work or materials shall be allowed unless the work is ordered in writing by the Owner or the Engineer, acting officially for the Owner, and the price is stated in such order.

13. Changes in Work:

(a) Should the Contractor encounter, or the Owner discover, during the progress of the work, subsurface or latent conditions at the site materially differing from those shown on the Drawings or indicated in the Specifications, or unknown conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Drawings and Specifications, the attention of the Owner shall be called immediately to such conditions before they are disturbed. The Owner must thereupon promptly investigate the conditions, and if it finds that they do so materially differ, the Contract shall be modified, with the written approval by the Owner, to provide for any increase or decrease of costs or difference in time resulting from such conditions. No changes in work shall be made without prior written approval by the Owner.

(b) The Contractor must proceed with the performance of any changes in the work so ordered in the field by the Engineer and/or Owner unless the Contractor believes said change entitles him to a change in Contract price and/or time, in which event the Contractor must give the Engineer written notice thereof within seven days after receipt of the field order and must not execute the field change pending the execution of a change order unless the change is for accident prevention as cited herein.

(c) The Contractor must furnish to the Owner, when required, an itemized breakdown of the quantities and prices used in computing the value of any change that might be ordered. In figuring these changes, instructions for measurement of quantities set forth in the Specifications must be followed.

(d) Charges or credits for the work covered by the approved change shall be determined by the Owner using one or more or a combination of the following methods:

- i. Unit bid prices stipulated in the Bid or as subsequently approved, which unit prices shall include allowances for overhead and profit.
- ii. An agreed lump sum.
- iii. The actual cost, by keeping a correct account including all vouchers, for:
 1. Labor, including foremen;
 2. Materials entering permanently into the work;
 3. Ownership or rental cost of power tools and construction equipment actually used;
 4. Power and consumable supplies for operation of power equipment actually used;
 5. Prorate charges for insurance covering public liability, Workmen's Compensation, Old Age and Unemployment, and also Social Security.

To the costs in (c) above shall be added a negotiated fixed fee for overhead and profit, not to exceed fifteen percent (15%) of the above items, except that actual cost only will be allowed for Social Security and Unemployment Insurance. Among the items considered as overhead are costs for insurance other than above, bonds, superintendence, timekeeping, clerical work, watchman, use of small tools, general office expense and miscellaneous. The allowance for combined overhead and profit thus calculated shall be the only such allowance included in the total cost of the work performed by the Contractor or his subcontractor. If the work was performed by sub-contract, the Contractor may add a negotiated fixed fee for overhead and profit not to exceed five percent (5%) of the subcontract cost.

If the Owner determines that the Contractor, pursuant to his obligations under paragraph 6 and 7 of the Instruction to Bidders and Special Provisions, should have discovered the conditions prior to the awarding of the bid for the project, it may require the Contractor to complete the project for the contract price and the condition shall be deemed to be materially different as provided herein.

14. Claims for Extra Cost: No claim for extra work or cost shall be allowed, unless the same was done pursuant to a written order by the Engineer, as aforesaid, and the claim presented with the first estimate after the changed or extra work is done. When work is performed under the terms of subsection 13(c) of these General Conditions, the Contractor must 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.

15. Materials, Services and Facilities:

(a) It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor must provide and pay for all materials, labor, tools, equipment, water, lights, power, transportation, superintendence, 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) Materials and equipment must be stored in a manner to insure the preservation of their quality and fitness for the work.

(c) Any work necessary to be performed after regular working hours, on Sundays or legal holidays, shall be performed without additional expense to the Owner.

16. Patents:

(a) The contractor shall defend, indemnify, hold and save the Owner and its officers, agents, servants, and employees harmless from liability of any nature or kind, including attorney's fees cost and expense, for or on account of any patented or unpatented inventions, 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.

(b) If the Contractor uses any design, device or materials covered by letter, patents or copyrights, he must provide for such use by suitable agreement with the Owner of such patented or copyrighted design, device or material. It is mutually agreed and understood that, without exception, the Contract prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work. The Contractor and/or his sureties shall defend, indemnify and save and hold harmless the Owner of the project from any and all claims for infringement by reason of the use of such patented or copyrighted design, device or material or any trademark or copy-right in the connection with work performed under this Contract, and shall indemnify the Owner for any attorneys' fees, cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

17. Inspection and Testing of Material: 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 arranged for by the Contractor and as approved by the Engineer. The Contractor shall furnish all such extra quantities of materials and items as may be required for testing, and shall deliver same to the laboratory. The cost of furnishing and delivering samples to the laboratory shall be paid for by the Contractor.

Where the Detailed Specifications call for certified copies or mill or shop tests to establish conformance of certain materials with the Specifications, it shall be the responsibility of the Contractor to assure the delivery of such certifications to the Owner.

No materials or finished articles shall be incorporated into the work until such materials and finished articles have passed the required tests. The Contractor must promptly segregate and remove rejected material and finished articles from the work site.

The testing and approval of materials by the laboratory or laboratories approved by the Engineer shall not relieve the Contractor of any of his obligations to fulfill his Contract and guarantee of workmanship and materials as called for in Paragraph 21 entitled "General Warranty for one year After Completion of Contract", herein. The Contractor may, at his option and at his expense, cause such other tests to be conducted as he may deem necessary to assure suitability, strength and durability of any material or finished articles.

18. Right of the 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 his Surety of his intention to terminate the Contract, such notices to contain the reasons of 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 of correction be made, the Contract shall, upon the expiration of said ten (10) days, 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 five (5) days from the date of the mailing to such Surety of notice of termination, the Owner may take over the work, prosecute the same to completion by contract or by force account at the expense of the Contractor, and the Contractor and his Surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event, the Owner may take possession of and utilize in completing the work, such materials, appliances, and plant as may be on the work site and necessary therefore.

19. Notices and Service Thereof:

(a) Any notice to the 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 certified mail, to the said Contractor at his last given address, or delivered in person to said Contractor or his authorized representative on the work, or is deposited in the regular United States mail in a sealed, postage prepaid envelope, and the receipt thereof is acknowledged by the Contractor.

(b) Unless otherwise specified in writing to the Contractor, all papers required to be delivered to the Owner shall be delivered to the County Engineer. Any notice to or demand upon the Owner shall be considered sufficiently given if it is delivered to the office of said County Engineer or deposited in the United States mail in a sealed postage prepaid envelope properly addressed to the County Engineer, or to such other address as the Owner may subsequently specify in writing to the Contractor for such purposes, and it is received by the County Engineer.

20. 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 Bid, are given for use in comparing bids, and to indicate approximately the total amount of the contract. Except as herein otherwise specifically limited, the right is especially reserved by the Owner to increase or diminish them as may be deemed reasonably necessary or desirable by the Owner to complete the work contemplated by this Contract.

21. General Warranty After Completion of Contract: For a period of at least one year after completion of the Contract and final acceptance of the work by the Owner, the contractor warrants the fitness and soundness of all work done and materials and equipment put in place under the Contract. 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 for this warranty or for any other warranties or responsibility for faulty materials, equipment or workmanship. The Contractor must remedy any defects in the work and pay for damage resulting there from discovered with a period of one year from the date of final acceptance of work unless a longer period is specified. The Owner will give notice of observed defects with reasonable promptness. This provision in no way affects the Contractor's responsibility to the Owner for latent defects.

22. Contractor's Obligations: The Contractor shall and will, in good workmanlike 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 and complete all work required by the Contract within the time herein specified, in accordance with the provisions of this Contract and said Specifications, the Plans and Drawings of the work covered by this Contract, and any and all supplemental plans and drawings of the work, and in accordance with the directions of the Engineer as given from time to time during the progress of the work. The Contractor shall furnish, erect, maintain and remove such construction plant and such temporary works as may be required. He alone shall be responsible for the safety, efficiency and adequacy of his plan, appliance and methods, and for any damage which may result from their failure or their improper construction, maintenance or operation.

The Contractor shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the Contract Specifications, and shall do, carry on, and complete the entire work to the satisfaction of the Engineer and the Owner.

23. Engineer's Authority: The Engineer shall give all orders and directions contemplated under this Contract and Specifications relative to the execution of the work. The Engineer shall determine the amount, quality, acceptability and fitness of several kinds of work and materials which are to be paid for under the Contract and shall decide all questions which may arise in relation to said work and the construction thereof. The Engineer's estimates and decisions shall be final and conclusive, except as herein otherwise expressly provided. In case any question shall arise between the parties hereto relative to said Contract or Specifications, the determination or decision of the Engineer shall be a condition precedent to the right of the Contractor to receive any money or payment for work under this Contract affected in any manner or to any extent by such question.

The Engineer shall decide the meaning and intent of any portion of the Specifications and or any Plans or Drawings where the same may be found obscure or be in dispute.

Any difference or conflicts, in regard to their work, which may arise between the Contractor and other contractors performing work for the Owner, shall be adjusted and determined by the Engineer.

The Engineer and Owner will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.

24. Owner's Prerogative: The Owner shall have the right to enter the site for the purpose of doing work and/or having work done which is not covered by the Contract Documents. This provision shall not relieve the Contractor of his obligations cited in Item 22 herein, excepting work done by the agents or employees of the Owner. Prior to completion and acceptance of the work set forth in the Contract, the Owner with the concurrence of Engineer and Contractor, may use any completed or substantially completed portion of the work, by such use shall not constitute an acceptance of that portion.

25. "Or Equal" Clause: With the exception of major items of mechanical and electrical equipment, whenever a material or article required is specified or shown on the Drawings by using the name of the proprietary product or of a particular manufacturer or vendor, any material or article which will meet the design criteria and is equal in function and durability, as determined by the Engineer prior to the bid, will be considered acceptable.

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

27. Reports, Records and Data: The Contractor and each of his subcontractors must submit to the Owner such schedules, payroll, reports, estimates, records and other data as the Owner may request, or as may be required herein, concerning the work performed or to be performed under this Contract.

28. 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 must be complied with:

(a) Final Inspection: Upon written notice from the Contractor that his work is completed, the Engineer will make a final inspection of the work, and must notify the Contractor of all instances where his work fails to comply with the Contract Drawings and/or Specifications, as well as any defects he may discover. The Contractor must immediately make such alterations necessary to make the work comply with the Contract Drawings and Specifications to the satisfaction of the Engineer.

(b) 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, cross-walks, fences, and other public and private property or rights-of-way disturbed or damaged must be restored to their former condition. Final acceptance will be withheld until such work is finished.

(c) **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 will be filed against the Owner for such labor or materials.

(d) **Final Estimate:** Upon completion of all cleaning up, alterations and repairs required by the final inspection or operation 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 Engineer will issue a certificate of final acceptance of the work. The Contractor shall then prepare his final estimate. After review of the final estimate by the Engineer, and approval by the Owner, the final payment shall then become due.

29. Minimizing Silting and Bank Erosion During Construction: During construction protective measures must be taken and maintained to minimize bank erosion, and the silting of creeks and rivers adjacent to work being performed during construction. This must be done as according to the Erosion Control Section of the Specifications and the Stormwater Pollution Plan.

30. Restoration of Disturbed Areas: All areas disturbed by or during construction must be restored to their existing or better condition. This provision is not to be interpreted to require replacement of trees and undergrowth in undeveloped sections of rights-of-way.

31. Chemicals Used During Construction: All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactor or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal or residue must be in strict conformity with manufacturer's instructions.

32. Acceptance of Final Estimate: The acceptance by the Contractor of the final payment shall operate as a release to the Owner from all claims and liabilities to the Contractor for all work done or materials furnished, or for any act of the Owner or its agents affecting the work.

33. Inspection by Agencies: The representatives of all local, state and federal regulatory agencies legally authorized to have access shall have access to the work wherever it is, in preparation or progress, and the Contractor must provide proper facilities for such access and inspection.

34. Litigation: In the event of litigation in which the Owner is or becomes a party, the Contractor agrees and consents that the litigation shall be filed in or transferred to the Court of Common Pleas of Aiken County, South Carolina or the Aiken Division of the United States District Court for the District of South Carolina and that the laws of the State of South Carolina shall apply to and govern such litigation. The Contractor further agrees to cooperate with the Owner in obtaining the transfer of such litigation to those courts by promptly signing all documents necessary thereto.

35. Unauthorized Aliens and Public Employment:

(a) By signing its bid, offer, or proposal, Contractor certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of South Carolina Code of Laws and agrees to provide to the Owner upon request any documentation required to establish either:

- i. That Title 8, Chapter 14 is inapplicable both to Contractor and its subcontractors or sub-subcontractors; or
- ii. That Contractor and its subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14.

(b) Pursuant to Section 8-14-60, "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."

(c) Contractor agrees to include in any contract with its subcontractors language requiring its subcontractors

- i. To comply with the applicable requirements of Title 8, Chapter 14, and
- ii. To include in their contracts with their sub-subcontractors language requiring their sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14.

END GENERAL CONDITIONS

BID DOCUMENT
AIKEN COUNTY GOVERNMENT
Aiken-Jackson Public Boat Landing Bank Stabilization

TO THE COUNTY AND COUNTY COUNCIL
OF AIKEN COUNTY, SOUTH CAROLINA

Submitted _____, 2016

The undersigned, as Bidder, hereby declares:

1. That the only person or persons interested in the bid as principal or principals is (or are) named herein and that no person other than mentioned herein has any interest in this Bid or in the Contract to be entered into.
2. That this bid is made without connection with any other person, company or parties making a bid.
3. That in all respects, this bid is made fairly and in good faith, without collusion or fraud.

The Bidder further declares:

4. That he has examined the site of the work and has informed himself fully in regard to all conditions pertaining to the place where the work is to be done.
5. That he has examined the Drawings and Specifications for the work and contractual documents relative thereto and has read all Special Provisions and General Conditions furnished prior to the opening of bids.
6. That he has satisfied himself relative to all work to be performed.

The Bidder proposes and agrees, if this Bid is accepted, to:

- A. Contract with Aiken County, South Carolina, a body politic and corporate and a political subdivision of the state of South Carolina (hereinafter called The Owner), in the form of contract specified,
- B. To furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of the work in full and complete accordance with the shown, noted, described, and reasonably intended requirements of the Drawings, Specifications and Contract Documents to the full and entire satisfaction of The Owner, with a definite understanding that no money will be allowed for extra work except as set forth in the attached General Conditions and Contract Documents, for the following prices:

BID DOCUMENT
AIKEN COUNTY GOVERNMENT
Aiken-Jackson Public Boat Landing Bank Stabilization

PROPOSAL

Contractor shall have experience in constructing this particular type of project.

Provide all labor, equipment and materials to stabilize and improve the eroding shore line adjacent to the Jackson Boat Landing as shown on the plans and technical specifications prepared by the South Carolina Department of Natural Resources for Aiken County for a total lump sum price, including all applicable sales tax as follows:

Total Amount of Base Bid and all applicable Sales Tax:

_____ (\$ _____)
(Dollars and Cents)

The Bidder further proposes and agrees hereby to commence work under this contract, with adequate force and equipment, on a date to be specified in a written order of the Engineer, and shall fully complete all work there under within the following number of consecutive calendar days from and including that date:

(90) Consecutive Calendar Days

The Bidder declares that he understands that the unit price quantities shown in the Bid are subject to adjustment by either increase or decrease, and that should the quantities of any of the items of the work be increased, the undersigned proposes to do the additional work at the unit prices stated herein; and should the quantities be decreased, he also understands that payment will be made on actual quantities used at the unit price bid and will make no claim for anticipated profits for any decrease in the quantities and that quantities will be determined upon completion of the work at which time adjustment will be made to the contract amount by direct increase or decrease.

Submitted: _____

By: _____ (L.S)

Title: _____

General Contractor's License No. _____

(Note: If the Bidder is a Corporation, the Bid shall be signed by a duly authorized Officer of the Corporation; if a Partnership, it shall be signed by a Partner. If Signed by other, authority for signature shall be attached. The name of the person Signing must be typed in under his/her signature.)

STATE OF SOUTH CAROLINA)
) CONSTRUCTION AGREEMENT
COUNTY OF AIKEN)

THIS AGREEMENT is made and entered into on the _____ day of _____ 2016, by and between AIKEN COUNTY, SOUTH CAROLINA, a body politic and corporate and a political subdivision of the State of South Carolina, (hereinafter called the "OWNER") and (Insert FULL LEGAL NAME of Contractor), a (if incorporated, insert STATE where incorporated) corporation (hereinafter called the "CONTRACTOR").

WITNESSETH:

That the CONTRACTOR, for the consideration hereinafter fully set out, hereby agrees with the OWNER as follows:

1. That the CONTRACTOR will furnish all equipment, tools, materials, skill, and labor of every description necessary to carry out and to complete in a good, firm, substantial, and workmanlike manner, the Work specified, in strict conformity with the Documents entitled:

**Aiken County Government
Aiken-Jackson Public Boat Landing Bank Stabilization**

on file in the office of the OWNER, and the Specifications hereinafter set forth, which Drawings and Specifications, together with the foregoing Bid, Advertisement for Bids, Instructions to Bidder, Special Provisions, General Conditions, and all addenda hereto annexed, shall form essential parts of this CONSTRUCTION AGREEMENT, as if fully contained herein. The Work covered by this CONSTRUCTION AGREEMENT includes all Work as Specified and listed in the attached Bid, under the following items, to wit:

**Aiken County Government
Aiken-Jackson Public Boat Landing Bank Stabilization**

2. That the CONTRACTOR shall commence Work to be performed under this CONSTRUCTION AGREEMENT on a date to be specified in a written order of the OWNER's ENGINEER and shall fully complete all Work hereunder by 90 consecutive, calendar days except as otherwise provided in these documents for extensions of the above time limit.

Time is of the essence of this CONSTRUCTION AGREEMENT, and the CONTRACTOR shall pay to the OWNER, not as a penalty, but as Liquidated Damages, the sum of:

Five Hundred and 00/100 Dollars (\$ 500.00)

for each consecutive, calendar day that the CONTRACTOR shall be in default of completing the Work within the time limit named herein. Because of the difficulty of fixing damages suffered by the OWNER on account of such default, damages are herein agreed upon as stated.

3. The OWNER hereby agrees to pay the CONTRACTOR for the faithful performance of this CONSTRUCTION AGREEMENT, subject to additions and deductions as provided in the Drawings and Specifications, together with the Bid, Advertisements for Bids, Instructions to the Bidders, Special Provisions, General Conditions, and all Addenda hereto annexed, in lawful money of the United States, the sum of:

(Dollars and Cents)

which sum shall also pay for all loss or damages arising out of the nature of the Work aforesaid, or from the action of the elements, or from unforeseen obstructions or difficulties encountered in the prosecuting of the Work, and for all expenses incurred by or in consequence of the Work, its suspension or discontinuance, and for well and faithfully completing the Work and the whole thereof, as herein provided, and for replacing defective Work, material, or equipment provided for a period of (one year) after completion of all Work.

4. No later than 30 days after pay requests are promptly and properly submitted, as the Work progresses, the OWNER shall make partial payments to the CONTRACTOR on the value of labor and materials incorporated into the Work and of materials on hand at the Site of the Work, except cement and other materials subject to deterioration, during the preceding calendar month, less payments already made and less deductions for any unaccepted or defective Work, in accordance with terms set forth in the Specifications.

5. Upon submission by the CONTRACTOR of evidence satisfactory to the OWNER that all payrolls, material bills, and other costs of any kind incurred by the CONTRACTOR in connection with the construction of the Work have been paid in full, final payment on account of this CONSTRUCTION AGREEMENT shall be made within thirty (30) days after the completion by the CONTRACTOR of all Work covered by this CONSTRUCTION AGREEMENT and the acceptance of such Work by the OWNER.

IN WITNESS WHEREOF, the parties hereto have caused this CONSTRUCTION AGREEMENT to be executed by their duly authorized officers as of the date first above written in four (4) counterparts, each of which shall, without proof or accounting for the other counterparts, be deemed an original agreement. It is the intention of the parties that this Construction Agreement is a sealed instrument regardless of whether or not any seal is actually attached hereto.

Signed, Sealed, and Delivered in the Presence of: AIKEN COUNTY, SOUTH CAROLINA

Witnesses:

By: _____
Ronnie Young
County Council Chairman

ATTEST:

COUNTY CLERK (Official Seal) (SEAL)

Signed, Sealed and Delivered in the Presence of:

Witnesses:

(As to the CONTRACTOR)

(Print or Type Name of CONTRACTOR)

(Print or Type Name)

By: * _____

(Print or Type Name)

(As to the CONTRACTOR)

Its: _____

(Print or Type Name)

ATTEST:

* _____ (SEAL)

(Print or Type Name)

Its: _____
(Official Seal)

APPROVED AS TO FORM AND CONTENT

Attorney for the OWNER

*** NOTE: SIGNING INSTRUCTIONS - THESE INSTRUCTIONS MUST BE FOLLOWED.**

If CONTRACTOR is a Corporation, the CONSTRUCTION AGREEMENT must be signed by the President or Vice-President, Attested by the Secretary, and the Corporate Seal affixed.

If CONTRACTOR is a Partnership, the CONSTRUCTION AGREEMENT must be signed in the Partnership's Name by one of the Partners, with indication that (s)he is a General Partner. Signatures must be legible with the printed or typed name under each appropriate signature.

IN WITNESS WHEREOF, the said CONTRACTOR has hereunder affixed his signature and said SURETY has hereunto caused to be affixed its corporate signature, and seal, by its attorney-in-fact, on this the _____ day of _____, 2016, executed in four (4) counterparts, each of which shall, without proof or accounting for the other counterparts, be deemed an original.

Signed, Sealed, and Delivered in the Presence of:

1. WITNESSES:

(As to CONTRACTOR)

(Print or Type Name)

2. _____
(As to CONTRACTOR)

(Print or Type Name)

(CONTRACTOR)

By: _____ L.S.

(Print or Type Name)

Title: _____

ATTEST:

By: _____

(Print or Type Name)

1. WITNESSES:

(As to SURETY)

(Print or Type Name)

2. _____
(As to SURETY)

(Print or Type Name)

(SURETY)

By: _____ L.S.

(Print or Type Name)

TITLE: _____

ATTEST:

By: _____

(Print or Type Name)

TITLE: _____

(OFFICIAL SEAL)

APPROVED AS TO FORM

(Attorney for the OWNER)

*** NOTE: If the Principal/Contractor is a Corporation, the Bond shall be signed by the President or a Vice-President, attested by the Secretary and the Corporate Seal Affixed. If the Principal/Contractor is a partnership, the Bond shall be signed in the Partnership Name by one of the Partners, with the indication that he is a General Partner. Signatures must be legible and typed in under the appropriate line. THESE INSTRUCTIONS MUST BE FOLLOWED.**

PAYMENT BOND

STATE OF SOUTH CAROLINA)
)
COUNTY OF AIKEN)

KNOW ALL MEN BY THESE PRESENTS, that we _____
(hereinafter called the CONTRACTOR), of _____
as principal, and _____ a corporation duly
qualified and authorized under the laws of the State of South Carolina to act as surety bonds (hereinafter
called the SURETY), do hereby acknowledge ourselves indebted and firmly bound and held unto Aiken
County, South Carolina, a body politic, and Corporate, and a Political Subdivision of the State of South
Carolina (hereinafter called the OWNER) for the use and benefit of those entitled hereto, in the sum of:

(S) Dollars and Cents

for the payment of which well and truly to be made in lawful money of the United States, we do hereby bind
ourselves, successors, assigns, heirs, and personal representatives.

BUT THE CONDITIONS OF THE FOREGOING OBLIGATION OR BOND ARE THIS:

WHEREAS, the CONTRACTOR has entered into a written Agreement or Contract with the OWNER, a
copy of said contract being attached hereto and is by reference made a part hereof, the same as if set forth
fully herein for the furnishing of all labor, materials, equipment, tools, and supplies for constructing:

**Aiken County Government
Aiken-Jackson Public Boat Landing Bank Stabilization**

and it is the desire of the OWNER that the said CONTRACTOR shall assure and protect all laborers and
furnishers of materials on said Work.

NOW THEREFORE, if the said CONTRACTOR and all Subcontractors to whom any portion of the Work
provided for in the attached Agreement or such Subcontractors shall promptly make payment to all persons
supplying him or them with labor, materials, equipment, tools, and supplies for or in the prosecution of the
Work provided for in such Agreement or Contract, or in any amendment, extension, or addition thereto, and
for payment of reasonable attorney's fees incurred by any clamant or claimants in suits on this bond, then the
above obligation or bond shall be null and void, otherwise, to remain in full force and effect.

PROVIDED, however, that this bond is subject to the following conditions and limitations:

(a) Any persons, firm or corporation that has furnished labor, materials, equipment, tools, or supplies
for, and in the prosecution of the Work provided for in said Agreement or Contract, shall have a direct right
of action against the CONTRACTOR and SURETY on this bond, which right of action shall be asserted in a
proceeding, instituted in the County in which the Work provided for in said Agreement or Contract is to be
performed or in any County in which said CONTRACTOR or SURETY does business. Such right of action
shall be asserted in a proceeding instituted in the name of the claimant or claimants for his or their use and
benefit against said CONTRACTOR or SURETY or either of them (but no later than one year after the final
settlement of said Agreement or Contract) in which action such claim or claims shall be adjudicated and
judgment rendered thereon.

(b) The CONTRACTOR and SURETY hereby designate and appoint the County Administrator of
Aiken, South Carolina, as the agent for each of them to receive and accept service of process or other
pleading issue or filed in any proceeding instituted on this bond and hereby consent that such service shall be
the same as personal service on the CONTRACTOR and/or SURETY.

(c) In no event shall the Surety be liable for a greater sum than the penalty of this bond, or subject to any suits, action, or proceeding thereon that is instituted later than one year after the final settlement of the said Agreement or Contract.

IN WITNESS WHEREOF, the said CONTRACTOR has hereunder affixed his signature and said SURETY has hereunto caused to be affixed its corporate signature, and seal, by its attorney-in-fact, on this the _____ day of _____, 2016, executed in four (4) counterparts, each of which shall, without proof or accounting for the other counterparts, be deemed an original.

Signed, Sealed, and Delivered in the Presence of:

WITNESSES:
1. _____
(As to CONTRACTOR)

(Print or Type Name)

2. _____
(As to CONTRACTOR)

(Print or Type Name)

(CONTRACTOR)

By: _____ L.S.

(Print or Type Name)

Title: _____

ATTEST:
By: _____

(Print or Type Name)

WITNESSES:
1. _____
(As to SURETY)

(Print or Type Name)

2. _____
(As to SURETY)

(Print or Type Name)

(SURETY)

By: _____ L.S.

(Print or Type Name)

TITLE: _____

ATTEST:
By: _____

(Print or Type Name)

TITLE: _____

(OFFICIAL SEAL)

APPROVED AS TO FORM

(Attorney for the OWNER)

*** NOTE: If the Principal/Contractor is a Corporation, the Bond shall be signed by the President or a Vice-President, attested by the Secretary and the Corporate Seal Affixed. If the Principal/Contractor is a partnership, the Bond shall be signed in the Partnership Name by one of the Partners, with the indication that he is a General Partner. Signatures must be legible and typed in under the appropriate line. THESE INSTRUCTIONS MUST BE FOLLOWED.**

PRECONSTRUCTION CONFERENCE

(Rev July 2013)

1.1 DESCRIPTION

To help clarify construction contract administration procedures, the County (Owner) will conduct a Preconstruction Conference prior to start of the work. Contractor(s) will designate personnel for attendance.

1.2 SUBMITTALS

1. To the maximum extent practicable, advise the County Engineer at least 4 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 copies of the minutes to the Contractor. The Contractor may make and distribute such other copies as he wishes.

1.3 PRECONSTRUCTION CONFERENCE

2. The Conference will be held after the Owner has issued the "Notice of Award", but prior to actual start of the work.

B. Attendance:

Provide attendance by authorized representatives of the Contractor and major subcontractors. 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.

3. 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. Establish 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 the Work; and
8. Procedures for safety, security, quality control, traffic control, etc.

Also during the Conference, the project start date will be determined. After the end of the Conference, a "Notice to Proceed" will be issued to the Contractor.

SECTION 0100 - SPECIAL CONDITIONS

PART 1 - GENERAL**1.01 OWNER**

The term "Owner" as used in the contract documents is defined as Aiken County, South Carolina, a body politic and corporate and a political subdivision of the State of South Carolina.

1.02 SCOPE OF WORK

The work under this contract includes the furnishing of all labor, materials, equipment, and all items and services of every nature whether particularly mentioned or not that is required to complete the construction of:

The installation of a sheet pile wall approximately 178' long with support walers, with sheet pile dead man anchors dug in, the placement of rip rap toe armor at the base of wall, excavation, compacted earthen fill, the installation of a pipe handrail system, and the placement of stone base material as shown and detailed within the plans and specifications.

All work is to be done in accordance with drawings and specifications and any permit conditions of state, federal, local or any other agencies having jurisdiction.

1.03 GENERAL DRAWINGS AND SPECIFICATIONS

The general drawings and specifications are those described below, all of which have been prepared by the SC Department of Natural Resources, Engineering & Boating Access Section:

1.03.01 Project Manual

Title: **AIKEN-JACKSON PUBLIC BOAT LANDING BANK
STABILIZATION**

Specifications:

- Section 0100 – Special Conditions
- Section 0200 – Clearing and Grubbing
- Section 0300 – Erosion, Storm, and Sedimentation Control
- Section 0400 – Site Grading
- ~~Section 0500 – Grading at Boat Ramp and Dock~~
- Section 0600 – Rip-Rap Stabilization
- Section 0700 – Stone Base Course
- ~~Section 0800 – Hot Laid Asphalt~~
- Section 0900 – Concrete
- ~~Section 1000 – Aluminum Floating Docks and Accessories~~
- ~~Section 1100 – Fixed Wooden Docks~~
- ~~Section 1200 – Pilings~~
- Section 1300 – Grassing
- ~~Section 1400 – Debris Boom~~

~~Section 1500 – Aluminum Fixed Piers~~

~~Section 1600 – Foundation Rip Rap~~

~~Section 1700 – Aluminum Retaining Wall~~

~~Section 1900 – Storm Water Permit~~

Section 2000 – Navigable Water Permits

~~Section 2100 – Storm Drainage System~~

** Sections that are lined out are not applicable to project and are not included with manual.

1.03.03 Drawings

Site Name: **AIKEN-JACKSON PUBLIC BOAT LANDING BANK STABILIZATION**

Number of sheets: 1

Sheet 1: Plan, Profile & Details

The Contractor shall carefully check all drawings and advise the Owner if any errors or omissions are discovered. The Contractor shall not take advantage of any errors or omissions, as Owner will furnish full instructions if any errors or omissions are discovered. The Contractor shall be responsible for determining underwater soil conditions.

1.04 OWNER FURNISHED MATERIALS AND EQUIPMENT

Materials and equipment, indicated on the drawings as “Not in Contract”, and “Not Included in Contract” will be furnished and installed by Owner, unless specified otherwise hereinafter.

1.05 STORAGE OF MATERIALS

The Contractor shall limit the storage of materials to areas designated during pre-construction conference. The Contractor shall be responsible for the coordination of all material deliveries.

1.06 LIGHTS AND POWER

The Contractor shall furnish all temporary light and power, including all wiring, lamps and miscellaneous equipment required for the completion and inspection of the work. The Contractor will pay all costs for power required for use in the execution of the work, including fuel for any tests, etc.

1.07 WATER

The Contractor shall furnish and pay all cost for water used in the execution of the work, and shall provide any temporary water lines required.

1.08 TEMPORARY HEAT

The Contractor shall provide temporary heat as is required for construction purposes and to protect and dry all work during cold weather. The Contractor shall pay the costs of all temporary heat required during construction.

1.09 LINES, GRADES AND MEASUREMENTS

The Contractor shall establish all necessary working lines and grades from the basic reference lines and benchmarks, and shall be responsible for accuracy of the same.

1.10 SHOP DRAWINGS

Two copies of any shop drawings and calculations are to be provided to the Owner. Shop drawings shall be submitted for all components of the fixed dock and as requested for other items. Shop drawings and calculations shall be stamped by a qualified, professional engineer licensed by the State of South Carolina.

1.11 NON-RESIDENTS WITHHOLDING TAX

The Contractor's attention is directed to Title 12, Chapter 8, Code of Laws of South Carolina 1976, as amended concerning withholding tax on non-resident employees, contractors and subcontractors.

1.12 LIQUIDATED DAMAGES

Liquidated damages shall be as stated in the Owner's contract form.

1.13 AFFIDAVIT

On final completion of the contract, but prior to making final payment, the Contractor shall execute an Affidavit on standard forms certifying that all work under the contract has been completed, that all bills for labor and materials and bills for subcontractors incurred in connection with the performance of his contract have been paid in full.

1.14 SCHEDULING

From the date of the commencement in the "Notice to Proceed", the Contractor shall **substantially complete the project in 90 days or less**. The schedule is critical to the Owner. Close coordination and cooperation on this project is a must. Final Completion is expected within 30 days of Substantial Completion.

PART 2 - PRODUCTS

2.01 PRODUCT TYPE

All products are to be of the type specified, or if unspecified, shall meet the minimum industry or local standards. Substitution of specified materials will not be allowed except with written approval of the Owner.

PART 3 - EXECUTION

3.01 EXISTING UTILITIES AND STRUCTURES

The approximate location of certain known underground lines and structures are shown on the plans for information only. Other underground utilities or structures are not shown. The Contractor shall locate these and other possible unknown utility lines by use of an electronic pipe finder, or other means he may prefer, and shall excavate and expose all existing underground lines in advance of the trenching operation. This Contractor will be held responsible for the workmanlike repair of any damage done to any of these utilities in the prosecution of his work

under this contract. The Contractor shall familiarize himself with the existing conditions and be prepared to adequately care for and safeguard himself and the Owner from damage.

3.02 DAMAGES DURING CONSTRUCTION

The Contractor shall not be paid for any damages to work by circumstances within or beyond his control, and he shall save the Owner harmless from any damages arising from his work obstructing or interfering with any existing utilities.

3.03 PERMITS

The Contractor shall obtain all necessary Grading and Erosion Control Permits, etc. that applies to this particular project and these Permits shall be furnished by the Contractor at his expense. All Permits necessary for work performed within waters of the State of South Carolina are obtained by the Owner and are a part of this Bid Package, Section 2000 - Navigable Waters Permits.

3.04 RIGHT-OF-WAY

The Owner will furnish the necessary land for the construction of the work. The Owner will provide no right-of-way over other property. The Contractor shall take every possible precaution to inconvenience as little as possible the owners or tenants of adjacent property. Public highways shall not be obstructed in such a way as to inhibit traffic flow. The Contractor shall, at his own expense, repair any damage or injury to either public or private property during the progress of the work. Wholesale cutting of trees will not be permitted, except as necessary for construction.

3.05 ACCESS ROADS

Streets, roads and drives used by the Contractor for access to and from the site of his work shall be protected from damage in excess of that caused by the normal traffic vehicles used for in connection with the construction work. Any such damage shall be repaired immediately and left in good condition at the end of the construction period.

3.06 UTILITIES

The Contractor shall make his own arrangements for all utilities required for the work.

3.07 REMOVAL OF OBSTRUCTIONS

The Contractor, may with the Owner's consent, remove obstructions to his operations, but they shall be removed and replaced at the Contractor's expense.

3.08 PROTECTING TREES, SHRUBBERY AND LAWNS

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

3.09 RESTORATION AND DISTURBED AREAS

All areas disturbed by, during or as a result of construction activities shall be restored to their existing or better condition. This is not to be interpreted as a replacement of trees and undergrowth in undeveloped sections of the site.

3.10 PROTECTIVE WORK

The Contractor shall furnish and install all necessary temporary works for the protection of the work, including barricades, warning signs, and lights at night.

3.11 EMERGENCY WORK

The Contractor shall at all times (nights, weekends or holidays) have a responsible person available to act in case of emergency repairs who the Owner may contact. Upon notification of any emergency work necessary, the Contractor's representative shall immediately take steps to make such repairs.

3.12 CLEANING OF WORK SITE

At completion, the Contractor is to remove all surplus materials and other debris resultant from work and leave entire work site in satisfactory, acceptable, broom-clean condition.

3.13 VERIFICATION

Contractor to verify that existing gradients and elevations shown on the plans are correct. Commencement of work means acceptance of existing conditions.

3.14 HOLD HARMLESS STATEMENT

The contractor will hold harmless the State, its agents, officers and employees from actions by the contractor's employees, subcontractors, etc, involving construction of the project including violations of any permits or of any environmental laws or regulations.

END OF SECTION

SECTION 0200 - CLEARING AND GRUBBING

PART 1 - GENERAL**1.01 DESCRIPTION**

The work includes furnishing all labor, materials, and equipment, and performing all operations necessary to clear and grub the site of all trees, stumps, shrubs and other vegetation. The work includes demolition, removal, and disposal of buildings, roadways, debris, and other materials found on the site.

1.02 AREA INCLUDED

All affected areas as shown within the "Limits of Construction" or where construction work is specified on the plans, and all streets included in the project from right-of-way to right-of-way. Removal of buildings, debris, etc. applied to the entire site unless shown otherwise.

PART 2 - PRODUCTS

N/A

PART 3 - EXECUTION**3.01 CLEARING AND GRUBBING**

The entire area within the limits described above shall be cleared and grubbed. Remove all vegetation, trees, brush, stumps, etc., from the area. All debris from this operation shall be burned or otherwise disposed of off the Owner's property.

3.02 BURNING

No burning of debris shall be performed without a permit. No burning shall be performed without a permit. No burning shall be performed when extremely dry, windy, or other adverse burning conditions exist. Suitable precautions shall be taken to prevent the spread of fire.

3.03 PERMITS

Prior to any burning operations, permits shall be secured from:

The South Carolina Forestry Commission, 5500 Broad River Road, Columbia South Carolina, The South Carolina Department of Health and Environmental Control, 2660 Bull Street, Columbia, South Carolina, and from local agencies as required.

3.04 DISPOSAL

Debris, refuse, and other materials requiring disposal shall be removed from the site and disposed of at a site and in a manner approved by the South Carolina Department of Health and Environmental Control, and any other state, federal or local agencies having jurisdiction.

END OF SECTION

SECTION 0300 – EROSION, STORM, AND SEDIMENTATION CONTROL

PART 1 - GENERAL**1.01 DESCRIPTION**

Contractor shall take every precaution throughout construction to prevent the erosion of soil and the sedimentation of streams, lakes, reservoirs, other water impoundment, ground surfaces, or other property as required by State and Local regulation.

1.02 SCOPE OF WORK

Contractor shall, upon suspension or completion of land disturbing activities, provide protective covering for disturbed areas. Permanent vegetation shall be established at the earliest practicable time. Temporary and permanent erosion control measures shall be coordinated to assure economical, and continuous erosion and siltation control throughout the construction and post construction period.

1.03 PREVENTION OF DAMAGE

Contractor shall be responsible for the prevention of damage to properties outside the construction of the project. The Contractor will assume all responsibilities to the affected property owners for correction of damages that may occur. Erosion control measures shall be performed by the Contractor, conforming to the requirements of, and in accordance with plan approved by applicable State and Local agencies and as per the erosion control portion of the construction drawings and specifications.

PART 2 – PRODUCTS**2.01 PRODUCT TYPE**

All products are to be of the type specified, or if unspecified, shall meet the minimum industry standards and shall withstand a 10-year rain frequency event. Substitution of specified materials will not be allowed except with written approval of the Owner.

PART 3 – EXECUTION**3.01 EXCAVATION**

Clearing and grading shall be scheduled and performed in such a manner that subsequent grading operation and erosion control practice can follow immediately thereafter. Excavation, borrow, and embankment operations will be conducted such that cuts and fills will be completed to final grades in a continuous operation. All construction areas not otherwise protected shall be planted with permanent vegetative cover within thirty (30) working days after completion of active construction or as directed by Owner.

3.02 STABILIZING

The angle for graded slopes and fills shall be no greater than the angle that can be retained by vegetative cover or other adequate erosion control devices or structures. All disturbed areas left

exposed will be planted or otherwise stabilized with either temporary or permanent ground cover, devices, or structures sufficient to restrain erosion.

3.03 TIME REQUIREMENTS FOR EROSION CONTROL

The Contractor shall adhere to the following guidelines at all times:

3.03.01 *Before Land Disturbing Activities*

Before any land disturbing activity, the contractor shall install all required silt fencing, as shown on plans.

3.03.02 *End of Construction*

Whenever land disturbing activity is undertaken on a tract, a ground cover sufficient to restrain erosion must be planted or otherwise provided within thirty (30) working days on that portion of the tract upon which further active construction is not being undertaken.

3.03.03 *Suspension of Construction*

If any earthwork is to be suspended, for any reason, longer than thirty (30) calendar days, the areas involved shall be seeded with vegetative cover or otherwise protected against excessive erosion during the suspension period. Suspension of work does not relieve the Contractor of the responsibility for the control of erosion in the area. If erosion does occur prior to establishment of vegetative cover, Contractor shall replace and replant.

PART 4 – CONSTRUCTION PHASE

4.01 REQUIREMENTS

The Contractor shall:

4.01.01 *Construction Practices*

- (a) Except as allowed by permits, there will be no dumping of soil or sediment into any streambed or watercourse.
- (b) Maintain an undisturbed vegetative buffer where possible between a natural watercourse and trenching and grading operations.
- (c) Avoid equipment crossings of streams, creeks, and ditches where practicable.
- (d) Not allow mud and debris to accumulate in the parking area or roadways.
- (e) Provide appropriate siltation preventative measures prior to discharge of pumped water from trenches into any storm drain or stream.
- (f) Excavated material should be removed a sufficient distance from the water body so as to avoid siltation and that stockpiles must have proper siltation devices to prevent siltation into adjoining waters or lands.

END OF SECTION

SECTION 0400 - SITE GRADING

PART 1 - GENERAL**1.01 DESCRIPTION**

This work under this section includes grading for and including all excavations, formations of embankments, preparation of sub-grade for pavements and finishing and dressing of graded earth areas, shoulders, and ditches, and other areas as indicated on the plans.

1.02 CONSERVATION OF TOPSOIL

Unless otherwise noted on the plans, topsoil shall be removed without contamination by subsoil and spread on areas already graded and prepared for topsoil. Alternately, it may be transported and deposited in storage piles convenient to areas that are to receive application of topsoil later, or at locations indicated. Topsoil shall be stripped to a depth of 3 to 6 inches and, when stored, shall be kept free of roots, stone, and other undesirable materials and piled separate from other excavated materials.

PART 2 - PRODUCTS**2.01 BORROW MATERIALS**

Borrow material shall be selected to meet the requirements and conditions of the particular fill for which it is to be used. The material shall consist of sand soils or sand-clay soils capable of being readily shaped and compacted to the required densities. The borrow material shall be free of roots, trash and any other deleterious material. Any necessary drainage, clearing, grubbing of the borrow areas shall be considered incidental to operations of the borrow excavation and shall be performed by the Contractor at no additional cost to the Owner. Unless specifically provided, no borrow shall be obtained within the limits of the project site without written approval.

PART 3 - EXECUTION**3.01 EXCAVATION**

Excavation, of every description, shall be performed to the lines and grades indicated regardless of material encountered within the grading limits of the project. Suitable excavated material shall be transported and placed in fill areas within the limits of the work. When directed, unsuitable material encountered within the limits of the work shall be excavated below the grade shown and replaced with suitable material. Unsuitable material that is excavated, and the selected material ordered as replacement, shall be included in excavation. Unsuitable and surplus excavation material not required for fill shall be disposed in designated waste or spoil areas or removed from the site. During construction, excavation and filling shall be performed in a manner and sequence that will provide drainage at all times. If required fill material is in excess of that produced by excavation within the grading limits, said fill material shall be excavated from the borrow areas indicated or from other approved areas selected by the Contractor. Unsuitable materials include highly plastic clay soils and organic soils. The unsuitable soils shall be removed to a depth of at least 18 inches from the finished surface of the sub-grade and backfilled with suitable (sandy or sandy-clay soils) materials.

3.02 OPENING AND DRAINAGE OF EXCAVATION AND BORROW AREAS

The Contractor shall notify the Engineer, in advance, before opening any excavation or borrow area to allow sufficient time for Engineer to inspect and record any information deemed necessary. Borrow areas, like other excavated areas, shall be excavated in such a manner and sequence that will provide adequate drainage at all times. Over burden and other spoil material shall be disposed or may be used for special purposes in accordance with the requirements of this section and as directed by the Engineer / Owner.

3.03 EXCAVATION OF DITCHES AND GUTTERS

Ditches and gutters shall be cut accurately to the cross sections and grades indicated by the construction drawings. All roots, stumps, and other foreign matter in the sides and bottom of ditches and gutters shall be cut one foot below finished grade. Care shall be taken not to excavate ditches and gutter below the grades indicated. Any excessive ditch and gutter excavation, due to removal of roots, stumps, or over excavation, shall be backfilled to grade with suitable, thoroughly compacted, material, or with suitable stone or cobble to form an adequate gutter paving, as directed. The Contractor shall maintain all ditches and gutters, excavated under this specification, free from detrimental quantities of leaves, sticks, and other debris until final acceptance of the work. Suitable earth material excavated from ditches or gutters shall be placed in embankments. No excavated material shall be deposited within a distance of 3 feet from the edge of any ditches. The Contractor will be responsible for maintaining these newly constructed ditches and taking immediate action, subject to approval, to keep erosion of the ditch bottom and slopes to a minimum during the life of the contract.

3.04 PROTECTION OF EXISTING SERVICE LINES AND UTILITIES STRUCTURES

Existing utility lines that are shown on the drawings, or are made know to the Contractor prior to excavation, that are to be retained, as well as utility lines constructed during excavation operations, shall be protected from damage during excavation and backfilling. If damage occurs, the Contractor at his expense shall repair utility lines. The absence of utilities on drawings is no guarantee that they do not exist.

3.05 PREPARATION OF SUBGRADE

All soft, unstable or unsuitable material, which will not compact readily, shall be removed and replaced with satisfactory material as directed. All holes, ruts or depressions that develop in the sub-grade shall be filled with approved material and the sub-grade brought to line and grade and compacted. Compaction of the sub-grade shall be made by suitable construction procedures to provide not less than 95% density according to ASTM D 698, Standard Proctor test results. The density shall be determined by either ASTM D 2922 or ASTM D 2937.

3.06 PREPARATION OF GROUND SURFACE FOR FILL

All vegetation, such as roots, brush, heavy sods, heavy growth of grass, and all decayed vegetable matter, rubbish and other unsuitable material within the area upon which fill is to be placed shall be stripped or otherwise removed before the fill is started. In no case will unsuitable material remain in or under the fill area. Sloped ground surfaces steeper than 1 vertical to 4 horizontal on which fill is to be placed shall be plowed, stepped or benched, or broken up as directed, in such manner that the fill material will bond with the existing surface. Prepared surfaces on which compacted fill is to be placed shall be wetted or dried as required to obtain the compaction specified.

3.07 SAMPLING AND PRELIMINARY TESTING

Prior to beginning the grading operations, the Contractor shall submit his proposed sequence of excavation operations to the Engineer. Based upon the sequences of excavation, samples of the fill materials will be obtained at this time or as excavation proceeds and tested for moisture density relationship using the Standard Proctor Method (ASTM D-698). Sufficient time shall be allowed for completion of laboratory tests before any fill operations begin, using the soils being tested. All costs for these tests will be borne by the Contractor.

3.08 FILL

Fills and embankments shall be constructed at the locations and to lines and grades indicated. The completed fill shall correspond to the shape of the typical sections indicated. Material removed from excavation shall be used in forming the fill. Fill material shall be reasonably free from roots, other organic material and trash, and from stones having maximum dimensions greater than 6 inches. No frozen material will be permitted in the fill. Stones having maximum dimension larger than 4 inches shall not be permitted in the upper 6 inches of fill or embankment.

3.09 COMPACTION OF FILLS

All fills shall be compacted in loose layers no thicker than 8 inches. Compaction shall be accomplished by rolling with an approved tamping roller, heavy rubber-tired roller, vibratory roller, or other compaction equipment, whichever is best suited for the types of soil encountered, as approved by the Engineer. If total amount of fill is greater than 12", a sheep's foot roller shall be used.

3.09.1 *Optimum Moisture*

When material varies (+/-) 3% from the optimum moisture content as determined by ASTM D 698, it shall be treated as follows (unless a soil report has been prepared for the job and indicates otherwise):

- (a) When wet – moisture shall be reduced by scarifying and aerating the soil until optimum moisture content is obtained.
- (b) When dry – add water by sprinkling and mix thoroughly to incorporate into the uncompacted soil to obtain a soil moisture closer to the optimum moisture content.
- (c) Fill and cut areas will be sloped so as to drain properly and prevent accumulation of water.

3.09.2 *Degree of Compaction*

All fills and embankments shall be compacted to 100 percent of ASTM D 698 Standard Proctor density.

3.10 FIELD DENSITY DETERMINATIONS

Sufficient number of field density tests will be performed to ensure that the specified density for fills and embankments is being obtained. Any areas that do not conform to the required compaction shall be reworked as directed to bring the compaction up to the specified requirements. All reports will be written and a copy supplied to the Engineer / Owner.

3.11 FINISHED EXCAVATION, FILLS AND EMBANKMENTS

All areas covered by the project, including excavated and filled sections and adjacent transition areas, shall be uniformly smooth graded. The finished surface shall be reasonably smooth, compacted, and free from irregular surface changes. The degree of finish shall be that ordinarily obtainable from either blade grader or scraper operations, supplemented with hand raking and finishing. The finished surface shall be not more than 0.10 foot above or below the established grade or approved cross section.

3.12 DISPOSAL OF WASTE MATERIALS

All vegetation, roots, brush, sod, rubbish and other unsuitable materials stripped or removed from the limits of construction shall be burned or removed from the project site. Surplus material from excavations not required for filling or backfilling shall be spread and leveled as directed. In areas designated by the Owner or his representative, no surplus material may be removed from site without Owner's written permission.

3.13 PLACEMENT OF TOPSOIL BLANKET

Topsoil shall be placed on all shoulders, slopes, ditches and other earth areas included under this contract, excluding borrow areas, unless otherwise specified on the plans. Topsoil shall be uniformly placed on these areas to a compacted depth of not less than three (3) inches or more than four (4) inches. The material shall be free from clods of soil, matted roots, roots greater than two (2) inches in diameter, and any other objectionable material that might hinder subsequent grassing and mowing operations. The material shall be placed, leveled, and lightly compacted, with at least one pass of a cultipacker or light pneumatic-tired roller, to required cross sections, but shall be left one-tenth (0.10) of a foot below the finished earth grade, where areas are to be grassed or seeded. All surplus topsoil is to be stockpiled in satisfactory manner for future use by Owner.

3.14 PROTECTION

Newly graded areas shall be protected from traffic and from erosion. Any settlement or washing that may occur, from any cause, prior to acceptance shall be repaired and grades reestablished to the required elevations and slopes at no additional expense to the Owner.

END OF SECTION

SECTION 0600 - RIP-RAP STABILIZATION

PART 1 - GENERAL**1.01 DESCRIPTION**

The work under this section will include all materials, delivery and labor required to hand place rip-rap on geotextile fabric for boat ramp slopes, dock slopes, embankments and drainage areas.

PART 2 - PRODUCTS**2.01 PRODUCT TYPE**

All products are to be of the type specified, or if unspecified, shall meet the minimum industry or local standards. Substitution of specified materials will not be allowed except with written approval of the Owner.

2.02 RIP-RAP

The material shall consist of crushed granite stone meeting SCDOT Section 804 Specifications, with no piece weighing more than 150 pounds. All material shall have rough-hewn edges, no rounded stones, and must be free of roots, trash and any other deleterious material.

PART 3 - EXECUTION**3.01 GEOTEXTILE FABRIC**

A geotextile fabric shall first be placed on a slope prepared in accordance with plan details and at locations shown on plans.

3.02 RIP-RAP SIZE

Stone for hand placing shall vary in size with at least twenty percent (20%) weighing approximately 60 pounds and no more than twenty percent (20%) weighing less than 24 pounds.

3.03 PLACEMENT

Stone shall be placed by progressing upward with each piece being placed by hand perpendicular to the slope. Stone shall be firmly imbedded against the slope and with sides in contact with adjoining pieces. The spaces between the larger pieces shall be filled with spalls of suitable size, which shall be firmly wedged in place. The finished surface shall present an even, tight surface that is true to line, grade and section. When broken concrete is allowed, it shall be placed with smooth side up.

END OF SECTION

SECTION 0700 - STONE BASE COURSE

PART 1 - GENERAL**1.01 DESCRIPTION**

The work under this section shall consist of 4" to 6" base course composed of crushed stone fill and bound with screenings. Base course shall be placed on a foundation prepared in accordance with these specifications. This work will include all labor, materials, equipment and delivery required to place, grade and compact the base course as required. The base course shall conform to all lines, grades, dimensions and typical cross sections shown on plans or as directed by the Engineer.

1.02 SUBSTITUTION

The work under this section can also include the use of coquina if previously approved by the Engineer. Coquina thickness will be approximately 50% more than macadam base.

PART 2 - PRODUCT**2.01 MACADAM BASE**

The macadam base shall consist of coarse and fine aggregates and be free from vegetable matter, lumps or balls of clay or other deleterious substances. Macadam base course shall be 4" in thickness. Macadam base shall meet the requirements of Section 305 of the SCDOT Specs.

2.02 COQUINA BASE

Coquina shell base course shall consist of a mixture of aggregate shells, shell fragments and varying amounts of sand and clay obtained from naturally existing deposits. Coquina shell base course shall be 6" in thickness. Coquina shell base shall meet the requirements of the SCDOT Specs, Section 304.

PART 3 - EXECUTION**3.01 SUBGRADE**

Sub-grade for the stone base course must be prepared in accordance with requirements as specified before placing base course material.

3.02 SPREADING OF BASE COURSE

The spreading of the stone base course shall be accomplished in such a manner that the finished base will conform to the lines, grades, dimensions and typical cross sections. Care shall be taken to prevent segregation of the fine from the course aggregates during the handling, spreading or shaping of the materials.

3.03 UNSTABLE BASE COURSE

Should the sub-grade become unstable after the base course has been placed, the affected section shall be repaired. The base course material and the unsatisfactory sub-grade material shall be removed and the sub-grade material replaced with suitable material. The sub-grade material shall then be recompact and

reshaped to the required compaction and shape. The base course shall then be regraded and compacted to the required cross section, grade and compaction.

3.04 COMPACTION

The base course shall be wetted and rolled until the coarse aggregate is firmly set, bonded, and the base thoroughly compacted for the full width and depth. The rolling shall continue until the required compaction is satisfied or upon approval of the Engineer. The stone base shall be compacted to 98% density as determined by ASTM D 1557. Field density tests shall be performed per ASTM D 2922. All field density tests performed shall be written and a copy provided to the Engineer / Owner.

3.05 FINAL THICKNESS

Final thickness of base shall be no more than $\frac{1}{4}$ inch less than required.

3.06 MAINTENANCE

It is the responsibility of the Contractor to maintain the base until and if asphalt is to be added.

END OF SECTION

SECTION 0900 - CONCRETE

PART 1 - GENERAL**1.01 DESCRIPTION**

This work under this section includes all cast in place or pushed in place concrete work required to construct boat ramps and all concrete used as pavement. A portion of this work will require placement of concrete under water on a prepared sub-base. All concrete for all projects shall be ready-mix. Ready mixed concrete is defined as Portland Cement concrete produced regularly by an established commercial provider and delivered to the site in a plastic state.

PART 2 - PRODUCTS**2.01 MATERIALS**

All materials incorporated in the concrete shall conform to the requirements and specifications herein. Contractor shall submit the proposed design mix to the Owner for approval prior to ordering.

2.02 PORTLAND CEMENT

All Portland Cement shall be of American manufacture, which at the time it is incorporated in the mixture, shall conform to requirements of ASTM C150, Type I and II. The cement shall be the product of a mill that has been in successful operation for at least one year.

2.03 FINE AGGREGATE

All Fine Aggregate shall conform to ASTM C33.

2.04 COARSE AGGREGATE

All Coarse Aggregate shall be a crushed stone or gravel conforming to ASTM C33, unless otherwise provided herein.

2.05 WATER

Water used for work shall be fresh, clear and free from oil, acid, alkali or organic matter. Water shall not be added to the concrete mix on site without approval by the Owner.

2.06 ADMIXTURES

The use of any admixture in the concrete mix is subject to the approval of the Owner. Such approval will be given only after the admixture has been subjected to such tests as may be deemed necessary by the Owner. Expense of such tests shall be borne by the Contractor. Admixtures approved by SCDOT and having established a successful "track record" of use by other agencies, may be used with the approval of the Owner.

2.07 ENTRAINED AIR

Entrained Air shall be five percent (plus or minus one percent) by volume, based on measurements made immediately after discharge from the mixer. Air content shall be determined in accordance with ASTM C173 or ASTM C231.

2.08 REINFORCING STEEL

All Reinforcing Steel shall be deformed billet steel, conforming to ASTM A615, Grade 60. In addition to the reinforcing indicated on plans, the Contractor shall furnish all necessary support bars, tie bars, etc., required for properly supporting and spacing the bars in the forms. The reinforcement will be subject to field inspection for rust, shape and dimensions. If project is located in a salt-water environment, all reinforcing steel shall be epoxy coated

PART 3 - EXECUTION

3.01 STORAGE OF REINFORCEMENT STEEL

Reinforcement shall be stored in a manner that will avoid excessive rusting or coating by grease, oil, dirt and other objectionable materials. Storage shall be in separate piles or racks so as to avoid confusion or loss of identification after bundles are broken.

3.02 PLACING REINFORCEMENT

Before being placed, steel reinforcement shall be free from rust, scale, or other coatings that will destroy or reduce the bond. Reinforcement shall be formed to the dimensions indicated on the plans. Cold bends shall be made according to ACI 318, Chapter 7. Metal reinforcement shall be accurately placed and secured, and shall be lifted by hand as concrete is being poured so that steel is in center of slab. Steel shall not be supported by chairs, bricks, or any other items placed under steel prior to pouring of concrete.

3.03 CONCRETE PLACEMENT

The construction of forms, the operation of depositing and placing concrete, and concrete finishing shall all be conducted so as to form a compact, dense, impervious artificial stone of uniform texture throughout, and with smooth faces on all surfaces exposed to view. If, in the opinion of the engineers, any construction operation is not suitable to obtain the above finished result, he may require the Contractor to use any method or methods which will produce structures true to shape, line and dimensions, conforming to the above requirements and the following methods of obtaining the finished result.

3.04 FORM WORK

All concrete shall be formed unless indicated or directed otherwise. Forms shall conform to the shape, lines and dimensions of the member as called for on the plans. Chamfer all exposed edges $\frac{3}{4}$ inch unless otherwise indicated on the plans. Forms shall be substantial and properly tight to prevent leakage of mortar and they shall be properly braced and tied together so as to maintain position and shape and ensure safety to workmen and passersby. Temporary openings shall be provided where necessary to facilitate cleaning and inspection immediately before depositing concrete.

3.05 REINFORCEMENT

Steel Reinforcement shall be in strict accordance with the details and with the Manual of Standard Practice, Concrete Reinforcing Steel Institute, latest Revision. All intersections of reinforcement shall be wire tied together.

3.06 SLUMP

The Slump of concrete when placed shall be not less than 3 inches nor more than 5 inches.

3.07 REMOVAL OF WATER

Water shall be removed from excavations before concrete is deposited, unless otherwise directed by the Engineer. Any flow of water into the excavation shall be diverted through proper side drains to a pump, or removed by other approved methods that will avoid washing for freshly deposited concrete. Water vent pipes and drains shall be filled by grouting or otherwise throughout the placement of the concrete affected.

3.08 INSPECTION

The Engineer will inspect and approve all form work and reinforcing steel before placing concrete. Such approval will in no manner relieve the Contractor of his obligation to produce the finished work as required by the plans and specifications.

3.09 PLACEMENT OF CONCRETE

Placing of concrete shall be done in daylight unless the Engineer approves an adequate lighting system. All equipment for transporting the concrete shall be clean. All debris and ice shall be removed from the places to be occupied by the concrete. Forms and base shall be thoroughly wetted or oiled. Chutes, troughs or pipes shall be used in placing concrete so that the ingredients are not separated. Concrete shall be handled from the mixer to the place of final deposit as rapidly as practical by methods, which will prevent the separation or loss of the ingredients. It shall be deposited as nearly as practical in its final position to avoid rehandling or flowing. Mechanical vibrators of an approved type shall be used to produce proper contact of concrete with reinforcing steel and forms. Continuous spading of concrete in thin sections shall be in horizontal layers of not over 12 inches. When concreting is once started, it shall be carried on as a continuous operation until the placing of the section is completed. Under no circumstances shall concrete that has partially set be deposited in the work.

3.10 CONCRETE TO CONCRETE BONDING

Bonding of new concrete with concrete which has set shall be insured by thoroughly roughening and cleaning the surface, brushing in a coating of neat cement grout, then sluching in at least one inch of grout composed of one part Portland cement or two parts sand.

3.11 PROTECTION FROM COLD

When placing concrete at or below a temperature of forty degrees F, or when in the opinion of the Engineer, atmospheric temperature will probably fall below this limit within 24 hours after placing concrete, provisions shall be made to protect the concrete by means such as thermal curing blankets or an adequate house to keep the concrete temperature at or above 40 degrees F. Concrete placed in forms shall have a temperature of not less than 70 degrees F nor more than 100 degree F, and shall be maintained above 50

degrees F for not less than 4 days after placing. The use of salts, calcium chloride chemicals, or other materials in the mix to lower the freezing point of the concrete is prohibited.

3.12 METHODS OF CURING

Curing shall be accomplished by preventing rapid loss of moisture, rapid temperature changes, and mechanical injury from rain or flowing water for a period of 7 days, this shall be accomplished by covering concrete with polyethylene plastic or an approved sprayed on curing compound for the duration of the curing process. Curing shall be started as soon after placing and finishing as free water has disappeared from the surface of the concrete.

3.13 CONCRETE FINISH

Standard Finish shall be given to all concrete not ordinarily exposed to view unless another type finish is specified on the plans. The surface of the concrete shall not vary more than 1/4 inch when measured from a 5 foot template. All fins and other projections shall be removed carefully, and all abrupt irregularities shall be leveled. Surface pits having a dimension greater than 1/8 inch shall be filled with cement mortar as specified for patching. All boat ramp finishes when shown shall be a "V" Groove surface and all other surfaces shall be broomed as shown on plans. All concrete pavement shall be broom finish.

END OF SECTION

SECTION 1300 - GRASSING

PART 1-GENERAL**1.01 DESCRIPTION**

The work includes furnishing all labor, materials and equipment, and performing all operations in connection with the seeding of the areas as specified herein.

PART 2-MATERIALS**2.01 MATERIAL TYPE**

The Contractor shall, at the time of delivery, furnish the engineer with invoices of all materials received, so that the application rate of materials may be determined. All materials used shall conform to the requirements specified herein.

2.02 SEED

All seeds shall conform to all State laws and to all requirements and regulations of the South Carolina Department of Agriculture. The several varieties of seed shall be individually packaged or bagged and tagged to show name of seed, net weight, origin, and lot number. Mixtures of different types of seed shall be weighed and mixed in the proper proportions. The following seed schedule will be used:

Seeding Schedule (per 1000 square feet)*From May 1 - August 31*

1 pound Brown top millet
 2 pounds Hulled Bermuda
 25 pounds 10-10-10 Fertilizer
 75 pounds Limestone

OR

Deep Sandy Soils

2 pounds Brown top millet
 1 pound Centipede
 25 pounds 10-10-10 Fertilizer
 75 pounds Limestone

From September 1 - April 30

2 pounds Annual Rye Grass
 0.5 pound Hulled Bermuda
 1.5 pounds Unhulled Bermuda
 25 pounds 10-10-10 Fertilizer
 75 pounds Limestone

OR

1 pound Annual Rye Grass
 3 pounds Fescue Grass (See Note 1)
 25 pounds 10-10-10 Fertilizer
 75 pounds Limestone

OR

Deep Sandy Soils

1 pound Unhulled Bermuda
 2 pounds Rye Grass or Grain Rye
 0.5 pound Centipede
 25 pounds 10-10-10 Fertilizer
 75 pounds Limestone

Notes:

- 1) Fescue grass to be used only in areas of clay subsoil.
- 2) For swales and ditches with side slopes of 2:1 or greater, add 4 to 6 ounces of Weeping love grass to any of the above mixtures.
- 3) Swale and ditch bottoms to be double seeded.
- 4) All slopes greater than 2:1 to be hydroseeded.

2.03 FERTILIZER

Fertilizer shall be a commercial brand conforming to the State fertilizer law and shall be 10-10-10 composition.

2.04 SOIL SEALER

Soil Sealer shall be non toxic to animals and humans.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

All areas to be seeded shall be brought to the proper line, grade, or cross-section as indicated on the plans. Any damage by erosion or other causes that may have occurred after completion of grading operations shall be repaired before commencing with the seeding operations.

3.02 APPLICATION OF FERTILIZER

Fertilizer shall be spread uniformly at the specified rate over areas to be seeded and thoroughly mixed with the soil to a depth of approximately 3 inches. Mechanical spreaders shall be used for applying the fertilizer.

3.03 SEEDING

Within 24 hours after fertilizing, seed shall be sown at the rate specified. Seed shall be uniformly sown by use of mechanical seed drills. Seeds shall be covered and lightly compacted by means of a cultipacker or light roller if the drill does not accomplish this operation. Within 24 hours of compacting the seeded areas, soil sealer in the quantity of one gallon per 1,000 square feet of area shall be applied over the seeded area.

3.04 MAINTENANCE

Seeded areas shall be maintained in a satisfactory condition until final acceptance of the work. This shall include mowing, repair of eroded areas, and additional seeding, fertilizing or mulching if required to produce an acceptable stand of grass.

END OF SECTION

SECTION 2000 – CONSTRUCTION IN NAVIGABLE WATERS PERMIT

PART 1 - GENERAL**1.01 DESCRIPTION**

This section is to provide the contractor with permitting requirements and/or any special conditions that relate to the construction activities for this particular project. The contractor shall abide by these conditions or special conditions as they relate to construction in the navigable waters of the State of South Carolina. The owner will obtain and furnish copies of any permits related to this project as well as any permit placards that need to be displayed on site. The contractor shall obtain all other grading permits or business licenses required for such construction activity.

PART 2 – FEDERAL PERMIT**2.01 CORPS OF ENGINEERS**

This permit is for the construction of this project as issued by the U.S. Army Corps of Engineers. The contractor shall abide by the general conditions and / or any special conditions within this permit as they relate to the construction activities of this work. The contractor will be held accountable and liable for any violations or fines in reference to these requirements.

SEE ATTACHED

PART 3 – STATE PERMIT**3.01 DHEC / OCRM**

This permit is for the construction of this project as issued by the South Carolina Department of Health and Environmental Control and/or the Office of Ocean and Coastal Resource Management. The contractor shall abide by the general conditions and / or any special conditions within this permit as they relate to the construction activities of this work. The contractor shall stay in compliance with the 401 Certification requirements of this permit and will be held accountable and liable for any violations or fines in reference to these requirements.

SEE ATTACHED

No work can commence or continue without compliance of the conditions of the permits.

END OF SECTION

Nationwide Permit (13) Bank Stabilization (3/18/2002)

Bank stabilization activities necessary for erosion prevention provided the activity meets all of the following criteria:

- a. No material is placed in excess of the minimum needed for erosion protection;
- b. The bank stabilization activity is less than 500 feet in length;
- c. The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark or the high tide line;
- d. No material is placed in any special aquatic site, including wetlands;
- e. No material is of the type or is placed in any location or in any manner so as to impair surface water flow into or out of any wetland area;
- f. No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treeops may be used in low energy areas); and,
- g. The activity is part of a single and complete project.

Bank stabilization activities in excess of 500 feet in length or greater than an average of one cubic yard per running foot may be authorized if the permittee notifies the district engineer in accordance with the "Notification" general condition and the district engineer determines the activity complies with the other terms and conditions of the nationwide permit and the adverse environmental impacts are minimal both individually and cumulatively. This NWP may not be used for the channelization of a water of the U.S. (Sections 10 and 404)

GENERAL CONDITIONS:

The following general conditions must be followed in order for any authorization by a NWP to be valid.

1. **Navigation** No activity may cause more than a minimal adverse effect on navigation
2. **Project Maintenance:** Any structure or fill authorized shall be properly maintained, including maintenance to ensure public safety
3. **Soil Erosion and Sediment Control:** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permeates are encouraged to perform work within waters of the United States during periods of low-flow or no-flow
4. **Aquatic Life Movements:** No activity may substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species which normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.
5. **Equipment:** Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance
6. **Regional and Case-by-Case Conditions:** The activity must comply with any regional conditions which may have been added by the Corps or by the State or tribe in its Section 401 water quality certification and Coastal Zone Management Act consistency determination.
7. **Wild and Scenic Rivers:** No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status, unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation, or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency

in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service)

8. **Tidal Rights:** No activity or its operation may impair reserved tidal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights
9. **Water Quality:** (a) In certain States and tribal lands an individual 401 water quality certification must be obtained or waived (See 33 CFR 330.4(c))
(b) For NWPs 12, 14, 17, 18, 32, 39, 40, 42, 43, and 44, where the State or tribal 401 certification (either generically or individually) does not require or approve a water quality management plan, the permittee must include design criteria and techniques that will ensure that the authorized work does not result in more than minimal degradation of water quality (or the Corps determines that compliance with state or local standards, where applicable, will ensure no more than minimal adverse effect on water quality). An important component of water quality management includes stormwater management that minimizes degradation of the downstream aquatic system, including water quality (refer to General Condition 21 for stormwater management requirements). Another important component of water quality management is the establishment and maintenance of vegetated buffers next to open waters, including streams (refer to General Condition 19 for vegetated buffer requirements for the NWPs)

10. **Coastal Zone Management:** In certain states, an individual state coastal zone management consistency concurrence must be obtained or waived (see 33 CFR 330.4(d))
11. **Endangered Species:** (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act, or which will destroy or adversely modify the critical habitat of such species. Non-federal permittees shall notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or is located in the designated critical habitat and shall not begin work on the activity until notified by the District Engineer that the requirements of the Endangered Species Act have been satisfied and that the activity is authorized. For activities that may affect Federally-listed endangered or threatened species or designated critical habitat, the notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. As a result of formal or informal consultation with the FWS or NMFS, the District Engineer may add species-specific regional endangered species conditions to the NWP.

12. **Historic Properties:** No activity which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places is authorized, until the DE has completed with the provisions of 33 CFR Part 325, Appendix C. The prospective permittee must notify the District Engineer if the authorized activity may affect any historic properties listed, determined to be eligible, or which the prospective permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin the activity until advised by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office and the National Register of Historic Places (see 33 CFR 330.4(g)). For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the notification must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

13. **Notification:**
(a) Timing: Where required by the terms of the NWP, the prospective permittee must notify the District Engineer with a preconstruction notification (PCN) as early as possible. The District Engineer must determine if the PCN is complete within 30 days of the date of receipt and can

- request the additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the District Engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the District Engineer. The prospective permittee shall not begin the activity.
- (1) Until notified in writing by the District Engineer that the activity may proceed under the NWP with any special conditions imposed by the District or Division Engineer, or
- (2) If notified in writing by the District or Division Engineer that an individual permit is required, or
- (3) Unless 45 days have passed from the District Engineer's receipt of the complete notification and the prospective permittee has not received written notice from the District or Division Engineer. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).
- (b) Contents of Notification: The notification must be in writing and include the following information:
- (1) Name, address, and telephone numbers of the prospective permittee;
 - (2) Location of the proposed project;
 - (3) Brief description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWPs(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP (Sketches usually clarify the project and when provided result in a quicker decision);
 - (4) For NWPs 7, 12, 14, 18, 21, 34, 38, 39, 40, 41, 42, and 43, the PCN must also include a delineation of affected special aquatic sites, including wetlands, vegetated shallows (e.g., submerged aquatic vegetation, seagrass beds), and riffle and pool complexes (see paragraph 13(f)).
 - (5) For NWP 7 (Small Structures and Maintenance), the PCN must include information regarding the original design capacities and configurations of those areas of the facility where maintenance dredging or excavation is proposed.
 - (6) For NWP 14 (Linear Transportation Projects), the PCN must include a compensatory mitigation proposal to offset permanent losses of waters of the United States and a statement describing how temporary losses of waters of the United States will be minimized to the maximum extent practicable.
 - (7) For NWP 21 (Surface Coal Mining Activities), the PCN must include an Office of Surface Mining (OSM) or state-approved mitigation plan, if applicable. To be authorized by this NWP, the District Engineer must determine that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are minimal both individually and cumulatively and must notify the project sponsor of this determination in writing.
 - (8) For NWP 27 (Stream and Wetland Restoration Activities), the PCN must include documentation of the prior condition of the site that will be restored by the permittee.
 - (9) For NWP 29 (Single-Family Housing), the PCN must also include:
 - (i) Any past use of this NWP by the individual permittee and/or the permittee's spouse;
 - (ii) A statement that the single-family housing activity is for a personal residence of the permittee;
 - (iii) A description of the entire parcel, including its size, and a delineation of wetlands. For the purpose of this NWP, parcels of land measuring 1/2 acre or less will not require a formal on-site delineation. However, the applicant shall provide an indication of where the wetlands are and the amount of wetlands that exist on the property. For parcels greater than 1/2 acre in size, a formal wetland delineation must be prepared in accordance with the current method required by the Corps. (See paragraph 13(f)).
 - (iv) A written description of all land (including, if available, legal descriptions) owned by the prospective permittee and/or the prospective permittee's spouse, within a one mile radius of the parcel, in any form of ownership (including any land owned as a partner, corporation, joint tenant, co-tenant, or as a tenant-by-the-entirety) and any land on which a purchase and sale agreement or other contract for sale or purchase has been executed.

- (10) For NWP 31 (Maintenance of Existing Flood Control Facilities), the prospective permittee must either notify the District Engineer with a PCN prior to each maintenance activity or submit a five year (or less) maintenance plan. In addition, the PCN must include all of the following:
 - (i) Sufficient baseline information so as to identify the approved channel depths and configurations and existing facilities. Minor deviations are authorized, provided the approved flood control protection or drainage is not increased;
 - (ii) A delineation of any affected special aquatic sites, including wetlands, and;
 - (iii) Location of the dredged material disposal site.
 - (11) For NWP 33 (Temporary Construction, Access, and Dewatering), the PCN must also include a restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources.
 - (12) For NWPs 39, 43, and 44, the PCN must also include a written statement to the District Engineer explaining how avoidance and minimization of losses of waters of the United States were achieved on the project site.
 - (13) For NWP 39 and NWP 42, the PCN must include a compensatory mitigation proposal to offset losses of waters of the US or justification explaining why compensatory mitigation should not be required. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental impacts are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed.
 - (14) For NWP 40 (Agricultural Activities), the PCN must include a compensatory mitigation proposal to offset losses of waters of the US. This NWP does not authorize the relocation of greater than 300 linear-feet of existing serviceable drainage ditches constructed in non-tidal streams unless, for drainage ditches constructed in intermittent non-tidal streams, the District Engineer waives this criterion in writing, and the District Engineer has determined that the project complies with all terms and conditions of this NWP, and that any adverse impacts of the project on the aquatic environment are minimal, both individually and cumulatively.
 - (15) For NWP 43 (Stormwater Management Facilities), the PCN must include, for the construction of new stormwater management facilities, a maintenance plan (in accordance with state and local requirements, if applicable) and a compensatory mitigation proposal to offset losses of waters of the US. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed.
 - (16) For NWP 46 (Mining Activities), the PCN must include a description of all waters of the United States adversely affected by the project, a description of measures taken to minimize adverse effects to waters of the United States, a description of measures taken to comply with the criteria of the NWP, and a reclamation plan (for aggregate mining activities in isolated waters and non-tidal wetlands subject to headwaters and any hard rock/mineral mining activities).
 - (17) For activities that may adversely affect Federally-listed endangered or threatened species, the PCN must include the name(s) of those endangered or threatened species that may be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work.
 - (18) For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.
- (c) Form of Notification: The standard individual permit application form (Form ENG 4345) may be used as the notification but must clearly indicate that it is a PCN and must include all of the information required in (b) (1)-(19) of General Condition 13. A letter containing the requisite information may also be used.
- (d) District Engineer's Decision: In reviewing the PCN for the proposed activity, the District Engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the

public interest. The prospective permittee may, optionally, submit a proposed mitigation plan with the PCN to expedite the process and the District Engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. If the District Engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, the District Engineer will notify the permittee and include any conditions the District Engineer deems necessary.

Any compensatory mitigation proposal must be approved by the District Engineer prior to commencing work. If the prospective permittee is required to submit a compensatory mitigation proposal with the PCN, the proposal may be either conceptual or detailed. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the District Engineer will expeditiously review the proposed compensatory mitigation plan. The District Engineer must review the plan within 45 days of receiving a complete PCN and determine whether the conceptual or specific proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the District Engineer to be minimal, the District Engineer will provide a timely written response to the applicant stating that the project can proceed under the terms and conditions of the nationwide permit.

If the District Engineer determines that the adverse effects of the proposed work are more than minimal, then he will notify the applicant either (1) that the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the District Engineer determines that mitigation is required in order to ensure no more than minimal adverse effects on the aquatic environment, the activity will be authorized within the 45-day PCN period, including the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level. When conceptual mitigation is included, or a mitigation plan is required under item (2) above, no work on waters of the United States will occur until the District Engineer has approved a specific mitigation plan.

(e) Agency Coordination. The District Engineer will consider any comments from Federal and State agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse effects on the aquatic environment to a minimal level.

For activities requiring notification to the District Engineer that result in the loss of greater than 1/2 acre of waters of the United States, the District Engineer will, upon receipt of a notification, provide immediately (e.g., via facsimile transmission, overnight mail, or other expeditious manner), a copy to the appropriate offices of the Fish and Wildlife Service, State natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO), and, if appropriate, the National Marine Fisheries Service. With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the District Engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the District Engineer will wait an additional 15 calendar days before making a decision on the notification. The District Engineer will notify consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The District Engineer will maintain in the administrative record associated with each notification that the resource agencies' concerns were considered. As required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act, the District Engineer will provide a response to National Marine Fisheries Service within 30 days of receipt of any Essential Fish Habitat conservation recommendations. Applicants are encouraged to provide the Corps multiple copies of notifications to expedite agency notification.

(f) Wetlands Delineations. Wetland delineations must be prepared in accordance with the current method required by the Corps. For NWP 29 see paragraph (b)(9)(k)(ii) for parcels less than 1/2

acre in size. The permittee may ask the Corps to delineate the special aquatic site. There may be some delay if the Corps does the delineation. Furthermore, the 45-day period will not start until the wetland delineation has been completed and submitted to the Corps, where appropriate.

14. **Compliance Certification.** Every permittee who has received a Nationwide permit verification from the Corps will submit a signed certification regarding the completed work and any required mitigation. The certification will be forwarded by the Corps with the authorization letter. The Corps authorization will include: a.) A statement that the authorized work was done in accordance with the mitigation was completed in accordance with the permit conditions; and c.) The signature of the permittee certifying the completion of the work and mitigation.

15. **Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3 acre.

16. **Water Slurry Linings.** No activity, including structures and work in navigable waters of the United States or discharges of dredged or fill material, may occur in the proximity of a public water supply intake except where the activity is for repair of the public water supply intake structures or adjacent bank stabilization.

17. **Shellfish Beds.** No activity, including structures and work in navigable waters of the United States or discharges of dredged or fill material, may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4.

18. **Suitable Material.** No activity, including structures and work in navigable waters of the United States or discharges of dredged or fill material, may consist of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.) and material used for construction or discharged must be free from coarse pollutants in toxic amounts (see Section 307 of the Clean Water Act).

19. **Mitigation.** The District Engineer will consider the factors discussed below when determining the acceptability of appropriate and predictable mitigation necessary to offset adverse effects on the aquatic environment that are more than minimal.

(a) The project must be designed and constructed to avoid and minimize adverse effects to waters of the US to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all US forms (avoiding, minimizing, rectifying, reducing or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland impacts requiring a PCN, unless the District Engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. Consistent with National policy, the District Engineer will establish a preference for restoration of wetlands as compensatory mitigation, with preservation used only in exceptional circumstances.

(d) Compensatory mitigation (i.e., replacement or substitution of aquatic resources for those impacted) will not be used to increase the acreage losses allowed by the acreage limits of some of the NWPs. For example, 1/41-acre of wetlands cannot be created to change a 1/41-acre loss of wetlands to a 1/21-acre loss associated with NWP 39 verification. However, 1/21-acre of created wetlands can be used to reduce the impact of a 1/21-acre loss of wetlands to the minimum impact level in order to meet the minimal impact requirement associated with NWP 4.

(e) To be practicable, the mitigation must be available and capable of being done considering costs, existing technology, and logistics in light of the overall project purposes. Examples of mitigation that may be appropriate and predictable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland or upland vegetative buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferably in the same watershed.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g.,

- essments, deed restrictions) of vegetated buffers to open waters. In many cases, vegetated buffers will be the only compensatory mitigation required. Vegetated buffers should consist of native species. The width of the vegetated buffers required will address documented water quality or aquatic habitat loss concerns. Normally, the vegetated buffer will be 25 to 50 feet wide on each side of the stream, but the District Engineers may require slightly wider vegetated buffers to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the Corps will determine the appropriate compensatory mitigation (e.g., stream buffers or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where vegetated buffers are determined to be the most appropriate form of compensatory mitigation, the District Engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland impacts.
- (g) Compensatory mitigation proposals submitted with the "notification" may be either conceptual or detailed. If conceptual plans are approved under the verification, then the Corps will condition the verification to require detailed plans be submitted and approved by the Corps prior to construction of the authorized activity in waters of the US
- (h) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases that require compensatory mitigation, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.
- 20 **Structuring Acre Activities**, including structures and work in navigable waters of the United States or discharges of dredged or fill material, in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., excise, fill, or another downstream by substantial turbidity) of an important spawning area are not authorized.
- 21 **Management of Water Flows**. To the maximum extent practicable, the activity must be designed to maintain preconstruction downstream flow conditions (e.g., location, capacity, and flow rate). Furthermore, the activity must not permanently restrict or impede the passage of normal or expected high flows (unless the primary purpose of the fill is to impound water) and the structure or discharge of dredged or fill material must withstand expected high flows. The activity must, to the maximum extent practicable, provide for retaining excess flows from the site, provide for maintaining surface flow rates from the site similar to preconstruction conditions, and provide for not increasing water flows from the project site, relocating water, or redirecting water flow beyond preconstruction conditions. Stream channelizing will be reduced to the minimal amount necessary, and the activity must, to the maximum extent practicable, reduce adverse effects such as flooding or erosion downstream and upstream of the project site, unless the activity is part of a larger system designed to manage water flows. In most cases, it will not be a requirement to conduct detailed studies and monitoring of water flow
- This condition is only applicable to projects that have the potential to affect waterflows. While appropriate measures must be taken, it is not necessary to conduct detailed studies to identify such measures or require monitoring to ensure their effectiveness. Normally, the Corps will defer to state and local authorities regarding management of water flow.
- 22 **Adverse Effects From Impoundments**. If the activity, including structures and work in navigable waters of the United States or discharge of dredged or fill material, creates an impoundment of water, adverse effects on the aquatic system caused by the accelerated passage of water and/or the restriction of its flow shall be minimized to the maximum extent practicable.
- 23 **Wetland Breeding Areas**. Activities, including structures and work in navigable waters of the United States or discharges of dredged or fill material, into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.
- 24 **Removal of Temporary Fills**. Any temporary fills must be removed in their entirety and the affected area returned to their preexisting elevation.
- 25 **Designated Critical Resource Waters**. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, National Wild and Scenic Rivers, critical habitat for Federally listed threatened and endangered species, coral reefs, State natural heritage sites, and outstanding natural resource waters or other waters officially designated by a State as having particular environmental or ecological significance and identified by the District Engineer after notice and opportunity for public comment. The District Engineer may also designate additional critical resource waters after notice and opportunity for comment.

- (e) Except as noted below, discharges of dredged or fill material into waters of the United States are not authorized by NWP's 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, and 44 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. Discharges of dredged or fill materials into waters of the United States may be authorized by the above NWP's in National Wild and Scenic Rivers if the activity complies with General Condition 7. Further, such discharges may be authorized as designated critical habitat for Federally listed threatened or endangered species if the activity complies with General Condition 11 and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service has concurred in a determination of compliance with this condition
- (b) For NWP's 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with General Condition 13, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The District Engineer may authorize activities under these NWP's only after he determines that the impacts to the critical resource waters will be no more than minimal.
- 26 **Ellis Within 100-Year Floodplains**. For purposes of this general condition, 100-year floodplains will be identified through the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps or FEMA-approved local floodplain maps
- (a) Discharges in Floodplain, Below Headwaters. Discharges of dredged or fill material into waters of the US within the mapped 100-year floodplain, below headwaters (i.e. five (5)), resulting in permanent above-grade fills, are not authorized by NWP's 39, 40, 42, 43, and 44.
- (b) Discharges in Floodway, Above Headwaters. Discharges of dredged or fill material into waters of the US within the FEMA or locally mapped floodway, resulting in permanent above-grade fills, are not authorized by NWP's 39, 40, 42, and 44.
- (c) The permittee must comply with any applicable FEMA-approved state or local floodplain management requirements.
- 27 **Construction Period**. For activities that have not been verified by the Corps and the project was commenced or under contract to commence by the expiration date of the NWP (or modification or revocation date), the work must be completed within 12-months after such date (including any modification that affects the project). For activities that have been verified and the project was commenced or under contract to commence within the verification period, the work must be completed by the date determined by the Corps. For projects that have been verified by the Corps, an extension of a Corps approved completion date may be requested. This request must be submitted at least one month before the previously approved completion date.

Further Information

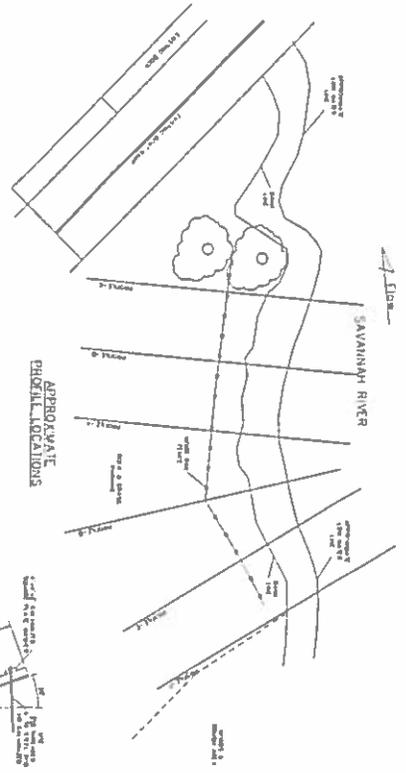
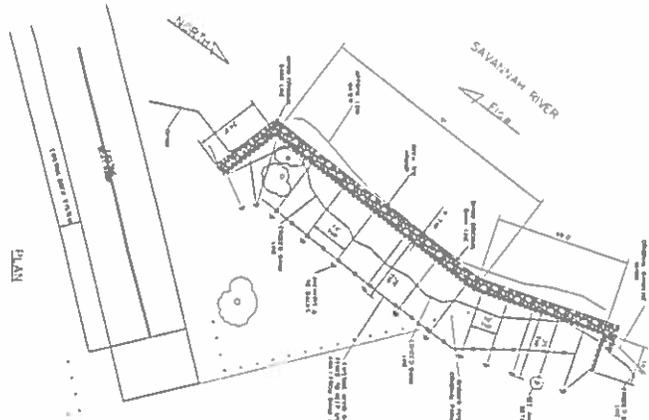
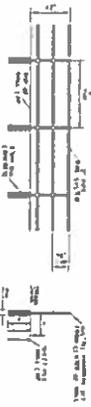
- 1 District engineers have authority to determine if an activity complies with the terms and conditions of an NWP
- 2 NWP's do not obviate the need to obtain other Federal, State, or local permits, approvals, or authorizations required by law
- 3 NWP's do not grant any property rights or exclusive privileges.
- 4 NWP's do not authorize any injury to the property or rights of others.
- 5 NWP's do not authorize interference with any existing or proposed Federal project.

Section 401 Water Quality Condition. No additional permit will be required except in the following cases:

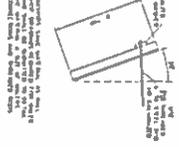
- 1. When compensatory mitigation is in the form of the purchase of mitigation bank credits and the bank is not located within the same hydrologic unit or an adjacent hydrologic unit within the same river watershed as the impacted site by the Hydrologic Unit Map of the United States, 1980, unless the conditions listed in Section 62.1-44 15.5E of the Code of Virginia relating to bank and impact type and location are met.**
- 2. When compensatory mitigation involves only the preservation of wetlands and/or wetland or upland vegetated buffers without accompanying creation or restoration of wetlands or the purchase of mitigation bank credits, or does not meet the goal of no net loss of wetland acreage and function of mitigation bank credits.**
- 3. For the location of a stormwater management facility in perennial stream or in oxygen or temperature impaired waters.**
- 4. For impacts to perennial streams in excess of 500 linear feet and for impacts to intermittent streams in excess of 1500 linear feet.**
- 5. For any water withdrawal project or for the protection of intake structures.**

RAILING DETAILS

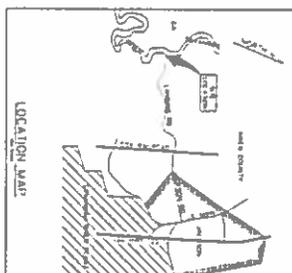
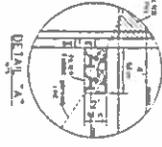
RAILING SHALL BE 4" X 4" POSTS AND 2" X 4" RAILS. POSTS SHALL BE SET IN CONCRETE. RAILS SHALL BE WELDED TO POSTS. RAILS SHALL BE SET AT 4' ON CENTER. POSTS SHALL BE SET AT 4' ON CENTER. RAILS SHALL BE SET AT 4' ON CENTER. POSTS SHALL BE SET AT 4' ON CENTER.



**TYPICAL SHEET
PILE ANCHOR**

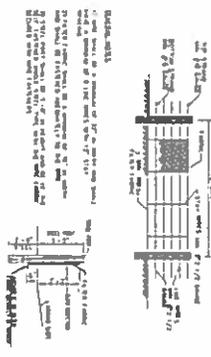


**TYPICAL SHEET
PILE**



CONSTRUCTION NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND DETAILS OF THIS PROJECT.
2. THE WALL SHALL BE 12" THICK CONCRETE WITH A MINIMUM STRENGTH OF 3000 PSI.
3. THE RAILING SHALL BE 4" X 4" POSTS AND 2" X 4" RAILS. POSTS SHALL BE SET IN CONCRETE. RAILS SHALL BE WELDED TO POSTS. RAILS SHALL BE SET AT 4' ON CENTER.
4. THE WALL SHALL BE SET BACK FROM THE RIVER BY 10 FEET.
5. THE RAILING SHALL BE SET AT 4 FEET ON CENTER FROM THE WALL FACE.
6. THE WALL SHALL BE SET AT 4 FEET ON CENTER FROM THE RIVER FACE.
7. THE WALL SHALL BE SET AT 4 FEET ON CENTER FROM THE RIVER FACE.
8. THE WALL SHALL BE SET AT 4 FEET ON CENTER FROM THE RIVER FACE.
9. THE WALL SHALL BE SET AT 4 FEET ON CENTER FROM THE RIVER FACE.
10. THE WALL SHALL BE SET AT 4 FEET ON CENTER FROM THE RIVER FACE.



SECTIONAL SHEET PILE DETAILS



<p>South Carolina Department of Natural Resources Engineering Section</p>	<p>PROJECT TITLE</p> <p>AIKEN-JACKSON PUBLIC BOAT LANDING BANK STABILIZATION</p>	<p>NUMBER</p>	<p>REVISION</p>	<p>DATE</p>
	<p>DRAWN BY</p> <p>CHECKED BY</p> <p>DATE</p>	<p>PROJECT TITLE</p> <p>PLAN, PROFILE & DETAILS</p>	<p>STATE PROJECT NUMBER</p>	