

**SPECIFICATIONS AND CONTRACT
DOCUMENTS**

for

**Betsy Lane (Project # 100148)
and Lambert Road (Project # 100150)**

**IMPROVEMENT PROJECT
HORRY COUNTY, SOUTH CAROLINA**

BID # 2009-10-083-RPM



**Prepared by
RPM Engineers, Inc.**

For

**Horry County Engineering Department
3230 Highway 319
Conway, South Carolina 29526**

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CONTRACT INFORMATION
and
DOCUMENTS

SECTION 0100

INVITATION TO BID

OWNER: Horry County
3230 Hwy 319
Conway, South Carolina 29526

DATE: January 14, 2010

Contractors are invited to submit sealed bids for Betsy Lane (Project # 100148), and Lambert Road (Project # 100150) to Horry County at the Office of Procurement, 3230 Highway 319, Conway, South Carolina, (29526), Attention: Tom Jones. **Bids shall be submitted no later than 3:00 p.m. January 28, 2010, in the Office of Procurement at the address stated above. Proposals received later than the 3:00 p.m. deadline will be considered "LATE BIDS".** **Horry County Business License Number must be clearly identified on the exterior of the bid package.**

General contract bidders are required to carefully read the requirements described in Document 0200 - Instructions to Bidders.

Bid documents for a construction contract may be obtained from **the offices of RPM Engineers, Inc. 511 Robert M. Grissom Parkway, Myrtle Beach, SC 29579 (843) 839-1490 or 307 W. Main Street, Lexington SC 29072, (803) 996-2900** for a non-refundable charge of **\$60.00** for a bid package with a reduced (11"x17") size set of plans and **\$120.00** for a bid package with full size set of plan. Attention: Berry Still. **Material must be paid for prior to mailing.**

Your firm is required to provide bid security in the sum of no less than five percent (5%) of the bid price.

Refer to other bidding requirements described in Document 0200 - Instructions to Bidders.

Bidders are required to complete the Bid Form provided. Bidders may not supplement this form unless otherwise directed.

Bidders shall not be permitted to withdraw bids for a period of sixty- (60) days after submission.

The owner reserves the right to accept or reject any or all bids, and to waive any informalities in the best interests of the County.

Direct all questions pertaining to the scope of work in writing to Berry Still, at RPM Engineers, Inc. 307 W. Main Street, Lexington SC 29072, (803) 996-2900, Fax number (803) 996-2944.

END OF SECTION

SECTION 0200

INSTRUCTIONS TO BIDDERS

INSTRUCTIONS TO BIDDERS

Sealed bids shall be enclosed and secured in an envelope/package and properly marked and displayed on outside of envelope/package bearing the name, license number (if applicable) and address of bidder, bid number and project identification. No other information shall be included or written on the outside of the bid envelope/package. Horry County **shall not** be responsible for unidentified bids. Bids should be addressed to

**Director of Procurement
Horry County Office of Procurement
3230 Hwy 319, Conway, South Carolina 29526**

Hand delivered bids should be delivered to the same above referenced address.

Bids shall be submitted no later than 3:00 p.m. January 28, 2010 in the Office of Procurement at the address stated above. Proposals received later than the 3:00 p.m. deadline will be considered “LATE BIDS”. Horry County Business License Number must be clearly identified on the exterior of the bid package.

Examination of Bid document – Prior to submitting a bid, each bidder shall carefully examine the Bidding documents, study and thoroughly familiarize himself with the specifications/requirements thereof and notify Owner of all conflicts, errors, or discrepancies.

The bidder shall sign his bid correctly. All offers shall be entered in ink or typewritten. Bid proposals may be rejected if any omissions, alteration of form, additions not called for, or any irregularities of any kind are shown. The bid shall remain firm for not less than sixty-(60) calendar days from the date of bid submission.

The bidder's name and solicitation number shall be included when specifications or descriptive papers are submitted with the invitation to bid.

By submission of a bid, the bidder guarantees that all goods and services meet the requirements of the solicitation.

When applicable, Horry County currently pays eight percent (8%) sales tax. The sales tax shall be shown as a separate entry on the total bid summation.

Bid Bond - Bids in any amount must be accompanied by a bid security (certified or cashier's check) made payable to Owner, (County of Horry) in an amount of five (5%) percent of the bidder's maximum bid price (including all additive alternatives) or in the form of a Bid Bond duly executed by the bidder as principal and issued by a surety authorized to conduct business in the State of South Carolina.

When bids are awarded, the Procurement Director will return immediately all checks, except those of the successful bidder.

Written consent from the Director of Procurement must be submitted should any changes in specifications be made after the purchase order/contract has been awarded; otherwise, the responsibility for such changes shall be with the bidder. Verbal information obtained otherwise will not be considered in awarding of bids.

Questions – All questions must be submitted in writing and directed to RPM Engineers, Inc. by fax # (803) 996-2944, attn: Berry Still or email bstill@rpmengineers.com.

Proper reference to this Request for Bids is required. **The deadline for submitting questions is seven- (7) days prior to bid opening date.** All changes in specifications shall be in writing in the form of an addendum and furnished to all bidders. Verbal information obtained otherwise will not be considered in awarding of bids.

Addendum to Bid – If it becomes necessary to revise any part of this request for bids, an addendum will be provided in writing to all bidders receiving this request for bids. All amendments issued by Horry County must be acknowledged in writing by bidder. **It shall be the Bidder's responsibility to ensure he has all addenda which have been issued by visiting <http://www.horrycounty.org/depts/finance/procure/bids.html#currentbids>.**

Bidder's Representation - By the act of submitting a bid for the proposed contract, the bidder represents that the bidder and all subcontractors the bidder intends to use have carefully and thoroughly reviewed the drawings, specifications and other construction contract documents and have found them complete and free from ambiguities and sufficient for the purpose intended. The bidder and all workmen, employees and subcontractors the bidder intends to use are skilled and experienced in the type of construction represented by the construction contract documents bid upon. Neither the bidder nor any of the bidder's employees, agents, intended suppliers or subcontractors have relied upon any verbal representations, allegedly authorized or unauthorized from the owner, or the owner's employees or agents including architects, engineers or consultants, in assembling the bid figure. The bid figure is based solely upon the construction contract documents and properly issued written addenda and not upon any other written representation.

Deviations - Any deviations within a submitted bid between prices quoted and restated in the summation sheet shall be resolved by the Director of Procurement as being the lower price, unless the bidder requests in writing, a correction or withdrawal of bid prior to the date and time set for opening in accordance with Section R3-202-10, of the Horry County Procurement Code.

Any bid withdrawal, or modification received after the established due date at the place designated for receipt of bids is late. No late bid, late modification, or late withdrawal will be considered unless received before contract award, and the bid, modification, or withdrawal would have been timely but for the action or inaction of County personnel directly serving the procurement activity in accordance with Section R3-202.11.2, Horry County Procurement Code and Regulations.

Horry County reserves the right to reject any or all bid proposals. It further reserves the right to waive technicalities and informalities in bids as well as to accept in whole or in part such bid or bids where it deems it advisable in protection of the best interest of the County of Horry, South Carolina. The County will be the sole judge as to whether bids submitted meet all requirements contained in this solicitation.

Award of contract will be made to the lowest responsible and responsive bidder whose bid meets the requirements and criteria set forth in the Invitation for Bids. The bidder must include the following items or their proposal may be deemed nonresponsive: 5% bid bond or appropriate equivalent as defined on Part VII, A, a signed Non-collusion Affidavit and Indemnification Form.

This solicitation does not commit the County of Horry to award a contract, to pay any costs incurred in the preparation of the bid proposal, or to procure or contract for goods or services listed herein.

Liability Coverage – The successful bidder shall provide proof of all required insurance(s), including worker's compensation, premises liability and general liability. Worker's compensation shall include a minimum limit of \$100,000 per accident and comprehensive general liability coverage shall provide minimum limits of liability of \$1,000,000 per occurrence Combined Single Limit for Bodily Injury and Property Damage. This shall include coverage for premises/operations, products/completed operations, contractual liability, independent contractors and vehicles used in premises/operations, and errors and omissions. Insurance shall indemnify County against any and all claims arising under or as a result of the performance of the contract. The County of Horry shall be named as an additional insured on all liability policies. The County of Horry must be provided with thirty- (30) day's notice prior to cancellation, modification or reduction in limits of any stipulated insurance.

Performance Bond - A performance bond in the amount of 100% of the estimated contract price shall be required. The performance bond shall be delivered by the contractor to the County at the same time the contract is executed. If a contractor fails to deliver the required performance bond, the contractor's bid shall be rejected, its bid security shall be enforced, and award of contract shall be made to the next lowest responsive and responsible bidder. The bond shall be issued from a surety approved to operate in the State of South Carolina and shall have a "raised" seal.

Payment Bond - A payment bond in the amount of 100% of the estimated contract price shall be required. The payment bond shall be delivered by the contractor to the County at the same time the contract is executed. If a contractor fails to deliver the required payment bond, the contractor's bid shall be rejected, its bid security shall be enforced, and award of contract shall be made to the next lowest responsive and responsible bidder. The bond shall be issued from a surety approved to operate in the State of South Carolina and shall have a "raised" seal.

Grievance - Any actual or prospective bidder, offeror, or contractor who is aggrieved in connection with the solicitation or award of a contract may protest to the County Administrator. The protest shall be submitted in writing within fourteen- (14) days after such aggrieved person

knows or should have known of the facts giving rise thereto provided that grievance has been made in accordance with bid proposal requirement. Any grievance by a bidder shall be made known prior to any bid opening in accordance with invitation to bids.

Freedom of Information Statement

Procurement information shall be a public record to the extent required by Chapter 3 of Title 30 (The Freedom of Information Act), South Carolina Code of Laws, 1976, with the exception that commercial or financial information obtained in response to a "Request for Bids" which is privileged and confidential if so designated by the bidder shall not be disclosed. Such information must be clearly marked as "**CONFIDENTIAL**" by the bidder for each section of information so affected. Privileged and confidential information is information in specific detail not customarily released to the general public, the release of which might cause harm to the competitive position of the party supplying the information.

Examples of this type of information would include:

1. Customer lists;
2. Design recommendations and identification of prospective problem areas under a bid;
3. Design concepts, including methods and procedures;
4. Biographical data on key employees of the bidder.

Evaluation Factors

Such factors are:

1. Compliance with specifications
2. Cost
3. References/experience for like products/services
4. Vendor performance history

Legal Statement

Please disclose any litigation within the last five (5) years in which a claim has been made against you or your company asserting a cause of action other than:

1. Employment issues
2. Lis Pendens
3. Contracts not related to your professional work

Please explain the issues in these cases.

Please submit one (1) original and one- (1) additional copy of bid response.

INSTRUCTIONS TO BIDDERS

PART I. SUMMARY

1.01 DOCUMENT INCLUDES:

- A. Invitation
 - 1. Bid Submission
 - 2. Work Identified in the Contract Documents
 - 3. Contract Time/Penalty
- B. Bid Documents and Contract Documents
 - 1. Definitions
 - 2. Availability
 - 3. Examination
 - 4. Queries/Addenda
 - 5. Product/System Substitutions
- C. Site Assessment
 - 1. Site Examination
- D. Qualifications
 - 1. Evidence of Qualifications
 - 2. Subcontractors/Suppliers/Others
- E. Bid Submission
 - 1. Submission Procedure
 - 2. Bid Ineligibility
- F. Bid Enclosures/Requirements
 - 1. Bid Security
 - 2. Performance Assurance
 - 3. Bid Form Requirements
 - 4. Bid Form Signature
- G.
 - 1. Offer Acceptance/Rejection
 - 2. Duration of Offer
 - 3. Acceptance of Offer

1.02 RELATED DOCUMENTS:

- A. Document 0100 - Invitation to Bid
- B. Document 0300 - Bid Form
- C. General and Supplementary Conditions

PART II. INVITATION

2.01 BID SUBMISSION

- A. Bids submitted after the time and date set for the receipt will be returned to the Bidder unopened.
- B. Offers will be opened publicly immediately after the time for receipt of Bids.
- C. Amendments to the submitted offer will be permitted if received in writing prior to Bid opening and if endorsed by the same party or parties who signed and sealed the offer.

2.02 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

- A. Work of this proposed Contract comprises the general construction including all work described in the Contract documents.
- B. Betsy Lane (Project # 100148), and Lambert Road (Project # 100150) are located in Horry County. A project map can be found at www.salestaxfordirtroads.com.
- C. Work will consist of all tasks necessary to construct the road to its final grade for aggregate base course as specified on the plans. **The Owner is requesting paving of the roadway to be bid as an alternate. The price for this alternate will not be considered in the determination of the low cost bidder and should not be included in the Bid Total for each road or the Grand Bid Total Price. The low bidder will be determined based on the lowest Grand Bid Total Price. The Grand Bid Total Price is the sum of all the individual Bid Total Prices excluding the paving alternate.** Upon selection of the low bidder, the Owner reserves the right to accept or reject the alternate.

2.03 CONTRACT TIME/LIQUIDATED DAMAGES

- A. Contractors shall complete 100% of the improvements within **150** calendar days (\$1000.00 per day liquidated damages) from the date of the Notice to Proceed.

PART III. BID DOCUMENTS AND CONTRACT DOCUMENTS

3.01 DEFINITIONS

- A. Bid Documents: Contract Documents supplemented with Bid Form and Supplements To Bid Forms and Bid Securities, identified herein.
- B. Contract Documents: Defined in General Conditions including issued Addenda.

- C. Bid, Offer or Bidding: Act of submitting an offer under seal.
- D. Bid Price: Monetary sum identified by the Bidder in the Bid Form.

3.02 AVAILABILITY

- A. Bid Documents may be obtained at the Office of **RPM Engineers, Inc., 511 Robert M. Grissom Parkway, Myrtle Beach, SC 29579, (843) 839-1490 or 307 W. Main Street, Lexington SC 29072, (803) 996-2900** for a non-refundable charge of **\$60.00** for a bid package with reduced (11"x17") size set of plans and **\$120.00** for a bid package with full size set of plans **Materials must be paid for prior to shipping.**

3.03 EXAMINATION

- A. Bid Documents and plans will be available for examination at the Horry County Procurement Office 3230 Highway 319 Conway, South Carolina 29526. Bid Documents, without the plans, will be available by visiting the Horry County website at www.horrycounty.org.
- B. Upon receipt of Bid Documents verify that documents are complete. Notify Engineer should the documents be incomplete.
- C. Immediately notify the Engineer upon finding discrepancies or omission in the Bid documents.

3.04 QUERIES/ADDENDA

- A. Direct all questions pertaining to the scope of work in writing to Berry Still, at RPM Engineers, Inc. 307 W. Main Street, Lexington, SC 29072, (803) 996-2900, Fax number (803) 996-2944.
- B. Addenda may be issued during the Bidding period. All Addenda become part of the Contract Documents. Include resultant cost adjustments in the Bid Price. It shall be the Bidder's responsibility to be sure he has all addenda which have been issued.
- C. Verbal instructions or comments are not binding on any party.
- D. Clarification's requested by Bidders must be in writing not less than seven- (7) days prior to receipt of Bids. The reply will be in the form of an Addendum, a copy of which will be forwarded to known recipients.

3.05 PRODUCT/SYSTEM SUBSTITUTIONS

- A. Where the Bid Documents stipulate a particular product, substitutions will be considered unless otherwise stated by the Engineer/Owner fifteen (15) days after the date of agreement with no adjustment in price.
- B. In submission of substitutions to products specified if approved or noted above. Bidders shall include a Bid, any changes required in the Work to accommodate such substitutions. A later claim by the Bidder for an addition to the Contract Time or Contract Sum/Price because of changes in Work necessitated by use of substitutions shall not be approved.

PART IV. SITE ASSESSMENT

4.01 SITE EXAMINATION

- A. The Bidder is responsible for visiting the project site before submitting a Bid in order to become familiar with site and soil conditions.
- B. The premises at the project site are open 24 hours a day for examination by Bidders.

PART V. QUALIFICATIONS

5.01 EVIDENCE OF QUALIFICATIONS

- A. To demonstrate qualifications for performing the Work of this Contract, Bidders must be licensed to perform work in the State of South Carolina and as evidenced by their Contractors and Bidders license number appearing on bid documents.
- B. The successful Bidder must complete a minimum of 70% of the Work involved in the project construction. The remainder may be accomplished by sub-contractors which must be approved by the Owner and the Engineer in writing prior to commencement of work.

5.02 SUBCONTRACTORS/SUPPLIERS/OTHERS

- A. The Owner reserves the right to reject a proposed Subcontractor for reasonable cause.
- B. Information on subcontractors shall be furnished by the Bidder to the Owner as requested.
- C. All Subcontractors must be approved in writing by the Owner prior to any Construction by the Subcontractor.

- D. All Subcontractors must provide a Noncollusion Affidavit and a certified Insurance Certificate.

PART VI. BID SUBMISSION

6.01 SUBMISSION PROCEDURE

- A. Bidders shall be solely responsible for the delivery of their Bids in the manner and time prescribed.
- B. Submit one Original and one copy of the executed offer on the Bid Forms provided, signed and sealed with the required security in a closed opaque envelope, clearly identified with Bidder's name and license numbers (Bidders and Contractors, Owner's name and labeled with the full project title and RFP number as shown on the Invitation to Bid.
- C. Bids mailed shall be enclosed in another envelope. Insert the closed and sealed Bid Form in the envelope to be mailed.
- D. Improperly completed information, irregularities in bid bond, may be cause not to open the Bid Form envelope and declare the Bid invalid or informal.
- E. A summary of submitted Bids will be made available to all Bidders within five (5) working days following Bid opening.

6.02 BID INELIGIBILITY

- A. Bids that are incomplete, unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, will at the discretion of the Owner, be declared unacceptable.

PART VII. BID ENCLOSURES/REQUIREMENTS

- A. Bids shall be accompanied by a security deposit as follows:
 - 1. Bid Bond of a sum no less than five (5%) percent of the Bid Price. (Include Power of Attorney).
 - 2. Certified check in the amount of five (5%) percent of the Bid Price.
 - 3. Other types of security may be allowed if pre-approved in writing by the Owner.

- B. Bids shall also be accompanied by proper Bid Proposal, Noncollusion Affidavit and Insurance Certificate.
- C. Endorse the Bid Bond in the name of the Owner as obligee, signed and sealed by the Contractor as principal and the Surety.
- D. The security deposits will be returned after delivery to the Owner of the required Performance and Labor and Materials Payment Bonds by the accepted Bidder.
- E. Include the cost of Bid security in the Bid Price.
- F. After a Bidder has been accepted, all securities will be returned to the respective Bidders sixty (60) days from the Bid Opening.
- G. If no contract is awarded, all security deposits will be returned.

7.01 PERFORMANCE ASSURANCE

- A. Contracted Bidder: Shall provide a Performance, Labor and Materials Bond and Payment Bond as described in the General and Supplementary Conditions.
- B. Include the cost of all bonds in the Bid Price.

7.02 BID FORM REQUIREMENTS

- A. Complete all requested information in the Bid Form and Appendices.

7.03 BID FORM SIGNATURE

- A. The Bid Form shall be signed by the Bidder, as follows:
 1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature. Affix seal.
 2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature. Affix seal to each signature.
 3. Corporation: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts under each signature. Affix the corporate seal. If the Bid is signed by officials other than the President and Secretary of the company, or the President/Secretary/Treasurer of

the company, a copy of the by-law resolution of the Board of Directors authorizing them to do so must also be submitted with the Bid Form in the Bid envelope.

4. Joint Venture: Each party of the joint venture shall execute the Bid Form under their respective seals in a manner appropriate to such party as described above, similar to the requirements of a Partnership.

PART VIII. OFFER ACCEPTANCE/REJECTION

8.01 DURATION OF OFFER

- A. Bids shall remain open to acceptance and shall be irrevocable for a period of sixty (60) days after the Bid closing date.

8.02 ACCEPTANCE OF OFFER

- A. The successful low bidder will be determined by the **Lowest Grand Bid Total Price.** **The award of the project will be based on the lowest Grand Bid Total Price from a responsive and responsible bidder. The Paving Alternate is not included in the Bid Total Price.** This alternate is **not** used in the determination of the low bidder
- B. The Owner reserves the right to accept or reject any or all offers or to delete portions of this project from the contract.
- C. After acceptance by the Owner, the Owner will issue to the successful Bidder, a written notice of Award and an Agreement to be completed.

END OF SECTION

SECTION 0300

BID FORMS

Required Form

INDEMNIFICATION
(This form is Part of the Proposal)

The CONTRACTOR will indemnify and hold harmless the OWNER and the COUNTY OF HORRY and their agents and employees from and against all claims, damages, losses and expenses, including attorney's fees, arising out of or resulting from the performance of the WORK provided that any such claims, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, injury to or destruction of tangible property, including the loss of use resulting therefrom, and is caused by any negligent or willful act or omission of the CONTRACTOR, and anyone directly or indirectly employed by him or anyone for whose acts any of them may be liable.

In any and all claims against the OWNER or COUNTY OF HORRY or any of their agents or employees by an employee of the CONTRACTOR, and anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way to the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR under the workman's compensation acts, disability benefit acts, or other employee benefit acts.

The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the COUNTY OF HORRY or its agents or employees arising out of the reports, survey, CHANGE ORDERS, designs, or SPECIFICATIONS.

CONTRACTOR _____

BY: _____

DATE: _____

TELEPHONE: _____

Required Form

NONCOLLUSION AFFIDAVIT OF PRIME BIDDER

State of South Carolina)
County of Horry)

being first duly sworn, deposes and says that:

1. He is _____ of _____ the Bidder that has submitted the attached Bid:
2. He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid:
3. Such Bid is genuine and is not a collusive or sham Bid;
4. Neither the said Bidder nor any of it's officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Owners or any person interested in the proposed Contract; and
5. The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any of it's agents, representatives, owners, employees, or parties in interest, including this affiant.

Signed _____

Title _____

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

_____ My commission expires on _____

Title

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned,

_____ as PRINCIPLE, and

_____ as SURETY are held and

firmly bound unto _____, hereinafter called the "OWNER", in the

penal sum of _____

_____ Dollars (\$ _____),

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

THE CONDITION OF THIS OBLIGATION IS SUCH, that Whereas the Principal has submitted the Accompanying Bid,

dated _____, 20____, for _____

NOW, THEREFORE, if the Principle shall not withdraw said Bid within the period specified therein after the opening of the same, or, if no period be specified, within thirty (30) days after the said opening, and shall within the period specified therefore, or if no period be specified, within ten (10) days after the prescribed forms are presented to him for signature, enter into a written Contract with the Owner in accordance with the Bid as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract; or in the event of the withdrawal of said Bid within the period specified, or the failure to enter into such Contract and give such bond within the time specified, if the Principal shall pay the Owner the difference between the amount specified in said Bid and the amount for which the Owner may procure the required work or supplies or both, if the latter be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this _____ day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and these presents signed by its undersigned representative, pursuant to authority of its governing body.

_____(SEAL)

_____(SEAL)

Attest:

By:_____

By:_____ Affix
Corporate
Seal

Attest:

By:_____ Affix
Corporate
Seal

Betsy Lane (Project # 100148), and Lambert Road (Project # 100150)

BID # 2009-10-083-RPM

PROPOSAL OF:

(hereinafter called "BIDDER"), organized and existing under the laws of the State of South Carolina).

TO: Horry County
c/o Office of Procurement
3230 Hwy. 319
Conway, South Carolina 29526

(hereinafter called "OWNER")

In compliance with your request for Bids, BIDDER hereby proposes to perform all WORK for the construction of the improvements as shown and called for in the CONSTRUCTION DOCUMENTS in strict accordance with the CONTRACT DOCUMENTS, within the time set forth and for the TOTAL BID AMOUNT stated below after BID SCHEDULE.

By submission of this BID, each BIDDER certifies that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to the BID with any other BIDDER or with any competitor.

BIDDER hereby agrees, if awarded this contract, to commence WORK under the contract on the date specified in the NOTICE TO PROCEED and to fully complete the PROJECT within **150** days. BIDDER further agrees to pay as liquidated damages, the sum of \$1000.00 for each consecutive calendar day thereafter as provided in the General Conditions.

BIDDER agrees to perform all work described in the CONTRACT DOCUMENTS for the TOTAL BID AMOUNT as shown following the BID SCHEDULE presented as follows:

BID SCHEDULE FOR

BETSY LANE (PROJECT # 100148) IMPROVEMENT PROJECT
BID # 2009-10-083-RPM

Note: Quantities are the Engineer's estimate only. All volumes are considered to be "in place" volumes

ITEM	DESCRIPTION	QTY		UNIT PRICE	AMOUNT
2011000	CLEAR. & GRUB. WITHIN R/W	NEC.	LS	\$	\$
2031000	UNCLASSIFIED EXCAVATION	646	CY	\$	
2033000	BORROW EXCAVATION AS DIRECTED BY ENGINEER	4767	CY	\$	
3050106	GRADED AGGR.BASE COURSE-6"UNIF	11460	SY	\$	
OPTIONAL	COQUINA BASE ALTERNATE – 9" UNIF (see special provisions)	11460	SY	\$	
7141112	15" RC PIPE CUL.-CLASS III	352	LF	\$	
7141113	18" RC PIPE CUL.-CLASS III	104	LF	\$	
7141114	24" RC PIPE CUL.-CLASS III	56	LF	\$	
8080000	MOVING ITEMS	NEC.	LS	\$	
8100001	PERMANENT VEGETATION	14.295	MSY	\$	
8999903	EROSION CONTROL	NEC.	LS	\$	
8999904	PERMANENT SIGNAGE (STOP, SPEED LIMIT,ETC.)	7	EA	\$	
8999905	CLEAN OUTFALL DITCHES	440	LF	\$	
8999906	MUCK AND REPLACE UNSUITABLE W/ 12" GRADED AGG. BASE COURSE	815	SY	\$	

BID TOTAL #1 \$ _____

ALT. BID FOR BETSY LANE

ITEM	DESCRIPTION	QTY		UNIT PRICE	AMOUNT
4030340	2" H/M ASPHALT SURFACE COURSE TYPE C	1155	TONS	\$	

COMPANY _____

ADDRESS _____

AUTHORIZED SIGNATURE _____

PHONE _____ FAX # _____

**BID SCHEDULE FOR
LAMBERT ROAD (PROJECT # 100150) IMPROVEMENT PROJECT
BID # 2009-10-083-RPM**

Note: Quantities are the Engineer's estimate only. All volumes are considered to be "in place" volumes

ITEM	DESCRIPTION	QTY		UNIT PRICE	AMOUNT
2011000	CLEAR. & GRUB. WITHIN R/W	NEC.	LS	\$	\$
2031000	UNCLASSIFIED EXCAVATION	1165	CY	\$	
2033000	BORROW EXCAVATION AS DIRECTED BY ENGINEER	3881	CY	\$	
3050106	GRADED AGGR.BASE COURSE-6"UNIF	12492	SY	\$	
OPTIONAL	COQUINA BASE ALTERNATE – 9" UNIF (see special provisions)	12492	SY	\$	
7141112	15" RC PIPE CUL.-CLASS III	350	LF	\$	
7141113	18" RC PIPE CUL.-CLASS III	76	LF	\$	
7141114	24" RC PIPE CUL.-CLASS III	152	LF	\$	
7141116	36" RC PIPE CUL.-CLASS III	52	LF	\$	
8080000	MOVING ITEMS	NEC.	LS	\$	
8100001	PERMANENT VEGETATION	14.986	MSY	\$	
8151112	TEMPORARY EROSION CONTROL BLANKET (CLASS B)	268.5	SY	\$	
8999903	EROSION CONTROL	NEC.	LS	\$	
8999904	PERMANENT SIGNAGE (STOP, SPEED LIMIT,ETC.)	8	EA	\$	
8999905	CLEAN OUTFALL DITCHES	450	LF	\$	
8999906	MUCK AND REPLACE UNSUITABLE W/ 12" GRADED AGG. BASE COURSE	800	SY	\$	

BID TOTAL #2 \$ _____

ALT. BID FOR LAMBERT ROAD

ITEM	DESCRIPTION	QTY		UNIT PRICE	AMOUNT
4030340	2" H/M ASPHALT SURFACE COURSE TYPE C	1257	TONS	\$	

COMPANY _____

ADDRESS _____

AUTHORIZED SIGNATURE _____

PHONE _____ FAX # _____

BID TOTAL #1 \$ _____

BID TOTAL #2 \$ _____

BID GRAND TOTAL \$ _____

ACKNOWLEDGEMENT OF ADDENDA

BIDDER hereby acknowledges receipt of all Addenda through and including:

Addendum No. _____, dated _____.

Addendum No. _____, dated _____.

Respectfully submitted:_____

Authorized Signing Officer

Address

Title

License Number

Date

(Seal if bid is by a corporation)

SECTION 0400
CONTRACT FORMS

NOTICE OF AWARD

TO:

PROJECT DESCRIPTION: BID # 2009-10-083-RPM

The OWNER has considered the BID submitted by you for the above described WORK dated

You are hereby notified that your BID has been accepted for the Total Bid Amount of \$

You are required by the Information for Bidders to execute the CONTRACT AGREEMENT and furnish the required CONTRACTOR'S PERFORMANCE BOND, PAYMENT BOND and CERTIFICATES OF INSURANCE within TEN calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within TEN (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER, at that time a NOTICE TO PROCEED will be issued.

Dated this _____ day of, _____ 2010.

HORRY COUNTY, OWNER

BY: _____

TITLE: _____

CONTRACT AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 2010 by and between Horry County, hereinafter called "OWNER" and **Contractor**, doing business as a corporation hereinafter called "CONTRACTOR".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR will commence the construction of the Roadway Improvement Project for Betsy Lane (Project # 100148), and Lambert Road (Project # 100150).
2. The CONTRACTOR will furnish all of the material, supplies, tools, equipment, labor and other services necessary for the construction and completion of the PROJECT described herein.
3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS immediately after the date of the NOTICE TO PROCEED and will complete the same within **One-Hundred and Fifty (150) calendar days** from NOTICE TO PROCEED unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS.
4. The CONTRACTOR agrees to perform all of the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein for the sum of # thousand # hundred # and 00/100 dollars (\$#####) as shown in the BID SCHEDULE.
5. The term "CONTRACT DOCUMENTS" means and includes the following:
 - (A) Section 00100 - Invitation to Bidders
 - (B) Section 00200 - Instruction to Bidders
 - (C) Section 00300 - Bid Forms (consisting of Non-Collusion Affidavit of Prime Bidder, Bid Bond, Proposal of Contractor, Bid Schedule, and Comments to the Project)
 - (D) Section 00400 - Contract Forms (consisting of Contract Agreement, Performance Bond, Payment Bond, Notice to Proceed, Application for Payment Form, and Change Order Form)
 - (E) Section 00500 - Standard General Conditions of the Construction Contract, prepared by Engineers Joint Contract Documents Committee (1996 Edition)
 - (F) Section 00600 - Supplementary Conditions (Sections 1.01 through 1.20)
 - (G) DRAWINGS prepared by RPM Engineers, Inc.
 - (H) SPECIFICATIONS prepared or issued by Horry County Engineers Office consisting of Divisions 1-16.

(I) ADDENDA:

No. _____, dated _____

No. _____, dated _____

6. The OWNER will pay to the CONTRACTOR in the manner and at such times as set forth in the General Conditions such amounts as required by the CONTRACT DOCUMENTS. A **10%** retainage will be held from each invoice. The first invoice should be sent no sooner than 30 days from the date on the notice to proceed.
7. This AGREEMENT shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.
8. The CONTRACTOR agrees that jurisdiction over any dispute arising under or in relation to the contract is vested in the Fifteenth Judicial Circuit with venue in the Horry County Court of Common Pleas.
9. South Carolina Illegal Immigration Reform Act, including without limitation Chapters 14 & 29, Title 8, and Chapter 8, title 41, SC Code of Laws. “Upon request, the contractor agrees to provide to Horry County any documentation required to establish either: (a) the applicability of the SC Illegal Immigration Reform Act to the contractor; or (b) proof of the contractor’s compliance with this Act”.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this AGREEMENT in three (3) copies, each of which shall be deemed an original on the date first above written.

CONTRACTOR:

BY: _____

TITLE: _____

WITNESS: _____

TITLE: _____

HORRY COUNTY:

BY: _____

TITLE: Division Director

WITNESS: _____

TITLE: _____

Performance Bond

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

CONTRACTOR (Name and Address): SURETY (Name and Address of Principal of Business):

OWNER (Name and Address):

CONTRACT

Date:

Amount:

Description (Name and Location):

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

Company: (Corp. Seal)

SURETY

Company: (Corp. Seal)

Signature: _____ Signature: _____

Name and Title:

Name and Title:

(Attach Power of Attorney)

EJCDC No. 1910-28-A (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Contract, which is incorporated herein by reference.

2. If the CONTRACTOR performs the Contract, the Surety and the CONTRACTOR have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.

3. If there is no OWNER Default, the Surety's obligation under this Bond shall arise after:

3.1. The OWNER has notified the CONTRACTOR and the Surety at the addresses described in paragraph 10 below, that the OWNER is considering declaring a CONTRACTOR Default and has requested and attempted to arrange a conference with the CONTRACTOR and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Contract. If the OWNER, the CONTRACTOR and the Surety agree, the CONTRACTOR shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the OWNER's right, if any, subsequently to declare a CONTRACTOR Default; and

3.2. The OWNER has declared a CONTRACTOR Default and formally terminated the CONTRACTOR's right to complete the Contract. Such CONTRACTOR Default shall not be declared earlier than twenty days after the CONTRACTOR and the Surety have received notice as provided in paragraph 3.1; and

3.3. The OWNER has agreed to pay the Balance of the Contract Price to:

3.3.1. The Surety in accordance with the terms of the Contract;

3.3.2. Another contractor selected pursuant to paragraph 4.3 to perform the Contract.

4. When the OWNER has satisfied the conditions of paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Contract; or

4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or

4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the OWNER for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the OWNER and the contractor selected with the OWNER's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the OWNER the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by the OWNER resulting from the CONTRACTOR Default; or

4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances;

4.4.1. After investigation, determine the amount for which it may be liable to the OWNER and, as soon as practicable after the amount is determined, tender payment therefor to the OWNER; or

4.4.2. Deny liability in whole or in part and notify the OWNER citing reasons therefor.

5. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the OWNER to the Surety demanding that the Surety perform its obligations under this Bond, and the OWNER shall be entitled to enforce any remedy available to the OWNER. If the Surety proceeds as provided in paragraph 4.4, and the OWNER refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the OWNER shall be entitled to enforce any remedy available to the OWNER.

6. After the OWNER has terminated the CONTRACTOR's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the OWNER shall not be greater than those of the CONTRACTOR under the Contract, and the responsibilities of the OWNER to the Surety shall not be greater than those of the OWNER under the Contract. To a limit of the amount of this Bond, but subject to commitment by the OWNER of the Balance of the Contract Price to mitigation of costs and damages on the Contract, the Surety is obligated without duplication for:

6.1. The responsibilities of the CONTRACTOR for correction of defective Work and completion of the Contract;

6.2. Additional legal, design professional and delay costs resulting from the CONTRACTOR's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and

6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the CONTRACTOR.

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

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

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

10. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the signature page.

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

12. Definitions.

12.1. Balance of the Contract Price: The total amount payable by the OWNER to the CONTRACTOR under the Contract after all proper adjustments have been made, including allowance to the CONTRACTOR of any amounts received or to be received by the OWNER in settlement of insurance or other Claims for damages to which the CONTRACTOR is entitled, reduced by all valid and proper payments made to or on behalf of the CONTRACTOR under the Contract.

12.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.

12.3. CONTRACTOR Default: Failure of the CONTRACTOR, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.

12.4. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

(FOR INFORMATION ONLY--Name, Address and Telephone)

AGENT or BROKER: OWNER's REPRESENTATIVE (Engineer or other party):

Payment Bond

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

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

OWNER (Name and Address):

CONTRACT

Date:

Amount:

Description (Name and Location):

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company: (Corp. Seal)

SURETY

Company: (Corp. Seal)

Signature: _____

Name and Title:

Signature: _____

Name and Title:

(Attach Power of Attorney)

EJCDC No. 1910-28-B (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER to pay for labor, materials and equipment furnished for use in the performance of the Contract, which is incorporated herein by reference.

2. With respect to the OWNER, this obligation shall be null and void if the CONTRACTOR:

2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2. Defends, indemnifies and holds harmless the OWNER from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract, provided the OWNER has promptly notified the CONTRACTOR and the Surety (at the addresses described in paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the CONTRACTOR and the Surety, and provided there is no OWNER Default.

3. With respect to Claimants, this obligation shall be null and void if the CONTRACTOR promptly makes payment, directly or indirectly, for all sums due.

4. The Surety shall have no obligation to Claimants under this Bond until:

4.1. Claimants who are employed by or have a direct contract with the CONTRACTOR have given notice to the Surety (at the addresses described in paragraph 12) and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2. Claimants who do not have a direct contract with the CONTRACTOR:

1. Have furnished written notice to the CONTRACTOR and sent a copy, or notice thereof, to the OWNER, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

2. Have either received a rejection in whole or in part from the CONTRACTOR, or not received within 30 days of furnishing the above notice any communication from the CONTRACTOR by which the CONTRACTOR had indicated the claim will be paid directly or indirectly; and

3. Not having been paid within the above 30 days, have sent a written notice to the Surety and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the CONTRACTOR.

5. If a notice required by paragraph 4 is given by the OWNER to the CONTRACTOR or to the Surety, that is sufficient compliance.

6. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1. Send an answer to the Claimant, with a copy to the OWNER, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2. Pay or arrange for payment of any undisputed amounts.

7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8. Amounts owed by the OWNER to the CONTRACTOR under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the CONTRACTOR furnishing and the OWNER accepting this Bond, they agree that all funds earned by the CONTRACTOR in the performance of the Contract are dedicated to satisfy obligations of the CONTRACTOR and the Surety under this Bond, subject to the OWNER's priority to use the funds for the completion of the Work.

9. The Surety shall not be liable to the OWNER, Claimants or others for obligations of the CONTRACTOR that are unrelated to the Contract. The OWNER shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

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

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by paragraph 4.1 or paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the OWNER or the CONTRACTOR, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

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

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, the CONTRACTOR shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

15.1. Claimant: An individual or entity having a direct contract with the CONTRACTOR or with a Subcontractor of the CONTRACTOR to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the CONTRACTOR and the CONTRACTOR's Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.

15.3. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

(FOR INFORMATION ONLY--Name, Address and Telephone)

AGENCY or BROKER:

OWNER'S REPRESENTATIVE (Engineer or other party):

SAMPLE

NOTICE TO PROCEED

To: **Contractor**
123 State St
Town, ST 12345

Project: **ROAD IMPROVEMENT PROJECT**
BID # 2009-10-083-RPM

You are hereby notified to commence WORK in accordance with the Agreement dated date, **XXX** on or before date, **XXX** and you are to complete the WORK within one hundred fifty (150) consecutive calendar days thereafter. The date of completion of all WORK is therefore date, **XXX**.

OWNER

By:_____

Title:_____

APPLICATION FOR PAYMENT NO. _____

TO: _____
(OWNER)

CONTRACT FOR: _____ **PROJECT #:** _____

For work accomplished through the date of: _____

	Contractor's Schedule of Values			All Work Completed to Date	
ITEM	Unit Price	Quantity	Amount	Quantity	Amount
Total (Original Contract)					
Change Order #1					
Change Order #2					

Accompanying Documentation:	GROSS AMOUNT DUE	\$
	LESS 10% RETAINAGE	\$
	AMOUNT DUE TO DATE	\$
	LESS PREVIOUS PAYMENTS	\$
	AMOUNT DUE THIS APPLICATION	\$

CONTRACTOR'S Certification:

The undersigned CONTRACTOR certifies that (1) all previous progress payments received from OWNER on account of Work done under the Contract referred to above have been applied to discharge in full all obligations of CONTRACTOR incurred in connection with Work covered by prior Applications for Payment number 1 through _____ inclusive; and (2) title to all materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all liens, claims, security interests and encumbrances (except such as covered by Bond acceptable to OWNER).

Dated: _____, 20__

CONTRACTOR

BY: _____

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

Dated: _____, 20__

ENGINEER

BY: _____

CHANGE ORDER

No. _____

PROJECT:	DATE OF ISSUANCE:
OWNER: Horry County c/o Engineering Department 3230 Hwy 319 Conway, South Carolina 29526	OWNER'S PROJECT #:
CONTRACTOR: Department	ENGINEER: Horry County Engineering
CONTRACT FOR:	ENGINEER'S PROJECT #:

You are directed to make the following changes in the Contract Documents.
Description:

Purpose of Change Order:

Attachments (list documents supporting change):

CHANGE IN CONTRACT PRICE: Original Contract Price: \$ _____ _____	CHANGE IN CONTRACT TIME: Original Contract Time _____ days or date
Previous Change Orders No. _____ to No. _____ \$ _____ _____	Net change from previous Change Orders _____ days
Contract Price prior to this Change Order \$ _____ _____	Contract Time Prior to this Change Order _____ days or date
Net increase (decrease) of this Change Order \$ _____ _____	Net increase (decrease) of this Change Order _____ days
Contract Price with all approved Change Orders \$ _____ _____	Contract Time with all approved Change Orders _____ days or date

RECOMMENDED:

by: _____
Engineer

APPROVED:

by: _____
Owner

APPROVED:

by: _____
Contractor

SECTION 0600

SUPPLEMENTARY CONDITIONS

SECTION 0600

SUPPLEMENTARY CONDITIONS

- 1.01 PROJECT DESCRIPTION: Horry County intends to receive bids to make the site improvements at the location shown on the plans. Work includes drainage system improvements, road bed clearing, grubbing, subgrade and base preparation, shoulder grading and seeding and other associated work.
- 1.02 DEFINITIONS:
- A. Owner - Horry County
3230 Hwy 319
Conway, South Carolina 29526
- 1.03 PERFORMANCE & PAYMENT BOND: Will be for 100 percent of the contract and shall be in force for a period of twelve (12) months from date of acceptance of the completed work by the Owner. The bond form in the contract documents will be used to execute the required bonds unless otherwise approved by the Engineer.
- 1.04 PLANS & SPECIFICATIONS: The Contractor will receive three (3) sets of plans and specifications to complete the work.
- 1.04.1 SPECIAL PROVISIONS / SUPPLEMENTAL SPECIFICATIONS

Unless otherwise stated in contract documents, all specifications will adhere to the 2007 SCDOT's "Standard Specifications for Highway Construction"

Special Provisions:

BASE ALTERNATE: (Optional)

The Contractor, at his/her discretion, may select 9" of Coquina Shell Base as an alternate to the 6" Graded Aggregate Base Course specified in the project plans. The Coquina Shell Base material shall be from an SCDOT approved borrow pit. The SCDOT approval must be current as to the date of the bid submittal and throughout the duration of the project.

All work must be in accordance with the 2007 Standard Specifications for Highway Construction Section 304 "COQUINA SHELL BASE".

The Contractor shall clearly indicate the selection of the COQUINA BASE ALTERNATE by placing a price on the bid schedule in its associated line item. If the contractor selects the COQUINA BASE ALTERNATE he/she **will not** place a price in the line item GRADED AGGR.BASE COURSE-6"UNIF. If the contractor simply chooses to not select the COQUINA BASE ALTERNATE then he would leave the line item blank and place a cost in GRADED AGGR.BASE COURSE-6"UNIF line item.

The unit cost price (SY) for this alternate will include all necessary alterations to the subgrade to accommodate the additional depth. Those alterations may include but are not limited: Disposal of excess fill, resolution of potential drainage conflicts, and any additional mucking due increased depth.

UTILITIES:

BETSY LANE (PROJECT # 100148)

- **Telecommunications:** Horry Telephone Cooperative (HTC) owns and operates underground telephone copper and cable coax lines along both sides of Betsy Lane with pedestals and services. HTC will relocate Pedestal's impacted by proposed construction prior to start of the project. HTC will work with the selected contractor should any impact occur at with the installation of the proposed 18" RCP cross line drain pipes at Station's 16+50, 33+50, 43+40, 59+50, and 73+60.
- **Water:** Bucksport Water Company (BWC) owns and maintains a PVC underground water line that runs along the right shoulder of the existing coquina road at approximately 32" to 36" deep. Several meters will be relocated and at least two additional meters which are located on the right of way line. Bucksport Water requests to be notified by contractor should he determine these meters require relocation during construction. The meters will relocate to outside of the right of way line only if needed.

An existing hydrant is located near the ditch, at Station 19+00 left. The contractor will redirect the ditch around the hydrant as necessary so the hydrant can remain in place. The leg running from the mainline to the hydrant is approximately 35" from the bottom of the existing ditch. Two valves exist near the intersection of Betsy Lane and Dog Bluff Road. One of the valves is surveyed to be approximately 4.14' from the proposed RCP drain pipe. A riser may be needed for this valve and can be determined during construction. Bucksport Water Company will work with the selected contractor should any impact occur at Station's 16+50, 33+50, 43+40, 59+50, & 73+60 with the installation of the proposed 18" RCP cross line drain pipes.

- **Electric:** Horry Electric Cooperative Distribution (HEC) owns Primary Power Poles and several service poles along Betsy Lane. Nine poles and a guy pole will be relocated prior to construction.

LAMBERT ROAD (PROJECT # 100150)

- **Telecommunications:** Horry Telephone Cooperative (HTC) owns and operates underground telephone copper lines with pedestals and services. The underground telephone service enters Lambert Road from Hwy 501 and runs along the right side of Lambert Road. HTC has four Pedestals which are impacted. At Station 17+20 right a Pedestal will move back 6'-0", and at Station 33+90 right a Pedestal will move back 5'-0". A Pedestal at Station 56+40 right will move back 8'-0" and a Pedestal at Station 62+45 left will move back 10'-0". The Pedestal located at Station 10+50 right will remain in place and the selected contractor will work around this area.

HTC will work with the selected contractor should any impact occur at with the installation of the proposed 18" RCP cross line drain pipes at Station's 10+40, 17+30, 24+20, 38+60, and 60+30. Some pot holing will be required during locates.

- **Electric:** Horry Electric Cooperative (HEC) has aerial service along the right side of Lambert Road from the intersection of SC 707. There are three crossings one near the intersection at Station 10+60, one at Station 12+60 and Station 15+80. A guy wire at the intersection of Lambert Road and Enoch Road will stay in place.
- **Sewer:** Grand Strand Water and Sewer Authority (GSWSA) owns and maintains sewer service on Lambert Road. The service enters Lambert Road from Hwy 501 and runs along the left side. This line is a 3" force main. Between Station 24+20 and 24+40 a drop section will be installed by GSWSA and at Station 25+40 left the sewer valves will need to be adjusted to grade. At Station 25+50 a Pumper Connection will be moved back approximately 15'-0".
- **Water:** Grand Strand Water and Sewerage Authority (GSWSA) owns and maintains water service on Lambert Road. A 6" PVC waterline service enters Lambert Road from Hwy 501 and continues along the right side of the road. At Station 15+30 right a water meter not surveyed will be relocated. At station 19+70 right a Hydrant will be relocated back about 5'-0" and the hydrant valve will be adjusted to grade. Between Station 24+20 and 24+40 a drop section will be installed by GSWSA and at Station 25+60 right the hydrant valves will need to be adjusted to grade.

GSWSA will work with the selected contractor should any impact occur at with the installation of the proposed 18" RCP cross line drain pipes at Station's 10+40, 17+30, 24+20, 38+60, and 60+30. Some pot holing will be required during locates.

- **Cable TV:** Time Warner Cable (TWC) owns and operates aerial cable and fiber lines and services along Lambert Road. The line runs aerial on Horry Electric power poles with permission from Hwy 501 to the project termini. Time Warner Cable will relocate with the power poles on Lambert Road.
- **Fiber Optic Transmission:** AT&T Transmission (ATT) owns and operates underground fiber transmission lines (trunk line) along Highway 501 at the intersection side of Lambert Road. The marker number for this line is 274 ½ - 275. The cable is located 12'-0" from the edge of pavement along Highway 501 and is 5'-0" deep. This line should be approximately 15'-0" away from the installation of the replacement RCP drain line at the intersection. The cable runs in 2" HDPE conduit. The contractor is asked to have this line located to avoid impact.
- **Moving Items:** Moving items will include the removal and replacement of posts, signs, fences, landscaping and incidentals within the proposed easement and as directed by the Engineer.
- **Placing Rip-Rap at Pipe Outlet:** Payment for the geotextile fabric beneath the rip-rap and placing the rip-rap at pipe outlet should be included in the price of pipe.

- **Clean Outfall Ditch:** The pay item Clean Outfall Ditch includes cleaning and grading required outfall ditches to ensure positive drainage. This work includes the removal and disposal of all debris, vegetation, and excavation material from within the limits of the ditch for the required outfall distance. Grading of the ditch may be necessary when the existing ditch does not provide positive drainage away from the site. In these conditions, the ditch should be graded to provide positive drainage as directed by the Engineer. Slopes should be stabilized, including the establishment of permanent vegetation, and erosion control measures implemented to ensure NPDES requirements are met.

The quantity for the pay item Clean Outfall Ditch is paid on a linear foot (LF) basis. Payment for Clean Outfall Ditch is full compensation for cleaning as specified or directed.

- **Muck and Replace Unsuitable W/12" Graded Aggregate Base Course:** Muck excavation will include replacement with 12" Graded Aggregate Base Course as directed by the Engineer
- **Subgrade Work:** Subgrade work will be in accordance with SCDOT Standard Specifications- Section 208. Subgrade work will not be measured for direct payment. Payment for this work will be considered as included and paid for in the various pay items of the contract.
- **Method of Payment for Pipe Installation:** Price of the pipe is measured by LF to include excavation, installation, all backfill materials and any other costs shall be included in the pipe linear footage unit price of the pipe.

Supplemental Specification:

- **Erosion Control:** Erosion Control consists of all items as described in SCDOT Standard Specifications Section 815 as shown on the plans and as necessary to adhere to SCDHEC NPDES requirements.

Subsection **815.5 Measurement** is void and superceded by:

The quantity for the pay item Erosion Control is paid on a lump sum (LS) basis; and therefore, there is no specific measurement of quantities for this item.

Subsection **815.6 Payment** is void and superceded by the following:

Payment for the lump sum Erosion Control item is full compensation for placement, maintenance, removal, and disposal of all erosion control devices, temporary seeding, and Best Management Practices for the project.

- **2" H/M Asphalt Surface Course Type C:** H/M Asphalt Surface Course placement consists of all items as described in SCDOT Standard Specifications sections 401,403 and subsection 305.06.

The quantity for the pay item H/M Asphalt placement is measured in TONS.

Payment is inclusive of all material and tasks associated with the placement of 2"H/M ASPHALT SURFACE COURSE TYPE C.

Fuel adjustment will be according to current Horry County Procedures.

- 1.05 CONSTRUCTION STAKE OUT: The Owner to provide a one time offset staking of the road right-of -way and drainage easement boundaries as well grade stakes. The Contractor shall be totally responsible to construct the work in accordance with the plans and specifications. The Engineer's checking of grade and offset stake out shall in no way relieve the Contractor of this responsibility. Any additional staking will be at the contractor's expense.
- 1.06 SUPERINTENDENCE BY CONTRACTOR: The Contractor shall provide a full time superintendent at the job site acceptable to the Engineer who shall have full authority to act for the Contractor. He shall be fully responsible to maintain the activities of any and all subcontractors on the job, and to respond to job instructions from the Owner.
- 1.07 BARRICADES AND LIGHTING: The Contractor will provide adequate barricades to properly protect the work and warn pedestrians and drivers as to areas of construction and hazards at night. The Owner and his construction observer shall have the right to require such barricades and lighting as they feel is required if the contractor fails to provide same.
- 1.08 TRAFFIC CONTROL ON PUBLIC STREETS: The Contractor shall provide adequate warning signs, and where necessary, flagman control traffic flows and movement at construction locations. Where public streets are affected, traffic will be maintained on such public streets at all construction locations and no public street or road shall be blocked completely at any time. The paved areas of all public roads and streets will be sufficiently cleared each night and during other non-working hours to assure safe, two-way traffic. Sufficient lights and after hours supervision will be maintained to assure public safety and excavations in pavements are properly filled and surface smooth. Construction equipment such as excavation machines, loaders, tractors, trucks, pumps, etc., shall be removed from public traffic lanes and paved areas so as to provide a safe and usable area for public traffic.
- 1.09 CONTRACTOR'S AND SUBCONTRACTOR'S PUBLIC LIABILITY, VEHICLE LIABILITY, AND PROPERTY DAMAGE INSURANCE.
 - A. Bodily injury, other than automobile, in the amount of not less than \$1,000,000 for injuries, including wrongful death to any one person, and subject to the same limit for all persons.
 - B. Property damage insurance, other than automobile, in an amount not less than \$1,000,000 for damage on account of all accidents.
 - C. Automobiles, including bodily injury liability and automobile property damage of not less than \$1,000,000 for damages on account of all accidents.
 - D. The requirements of insurance shall in no way be construed of establishing or admitting any master-servant or agency relationship between Owner and contractor, which such relations are hereby acknowledged not to exist between parties. Additionally, Contractor shall maintain full coverage for Workman's Compensation Insurance, South Carolina state minimum of \$100,000.

- E. Builder's Risk Insurance, if applicable, shall be in an amount equal to 100% of the projects completed value for the benefit of the Owner, the Contractor and the subcontractors as their interest may appear.
- 1.10 WORK SCHEDULE: The Contractor shall, upon notice of award, or as otherwise requested, furnish the Owner a job schedule showing the various components of work and the anticipated beginning and completion date for his particular phase of the project.
- 1.11 OTHER UTILITIES: Telephone lines, power lines and cables may be experienced and should be anticipated. The Contractor shall contact representatives of all utilities to determine the exact locations of all existing facilities and underground utilities and shall make every effort to avoid damage to such. Exploratory hand excavation prior to machine excavation should be done to avoid damage to existing facilities.
- 1.12 STATE HIGHWAY ENCROACHMENT: The Owner will obtain encroachment agreements for all work located in the state highway right-of-way, if required. All operations, trenching, pavement butting and repair will be coordinated with the appropriate public agency where such work affects public property. All requirements of these permits shall be performed by the contractor as though the permits were issued in the name of the contractor. A copy of the permit will be provided to the contractor upon request.
- 1.13 AS BUILT DRAWINGS: The Contractor shall keep a complete record of variations between contract drawings and specifications requirements and the actual project installation. One set of drawings shall be marked in red by the contractor showing such variations and delivered to the Owner upon completion of the project.
- 1.14 REQUIRED RECORDS ON SALES AND USE TAX: In order that the owner may substantiate a refund claim for sales and use taxes, the Contractors shall furnish certified statements in triplicate, setting forth the cost of building materials, supplies and fixtures, and equipment which becomes a part of, or are annexed to any building or structure being erected, altered, or repaired under contract, with the Owner and the amount of sales and/or use taxes paid thereon.
- 1.15 SUBCONTRACTORS: In the interest of assuring the most expeditious and properly controlled project, unless specifically approved in writing, it is a condition of this contract that the Prime Bidder must accomplish not less than 70% of the work to be done with his own forces. Not more than four subcontractors will be allowed to accomplish work on this project and they must work directly under the Prime Contractor's superintendent. This shall in no way prohibit the use of Rental equipment by the Prime Contractor's forces. All equipment and personnel shall be subject to approval of the Engineer. In determining the value of subcontracts, the value of materials and equipment installed by the subcontractor shall be included.
- 1.16 AWARD OF CONTRACT: Before awarding a contract the Owner may require the apparent low bidder to qualify himself to be a responsible bidder by furnishing any or all of the following documentary data:
 - A. A financial statement showing assets and liabilities of the company current to date within 30 days of the date of opening of bids or other information

satisfactory to the Owner.

- B. A listing of not less than three completed projects of similar scope and nature.
- C. Permanent name and address of place of business.
- D. The number of regular employees of the organization and length of time the organization has been in business under the present name.
- E. The name and home office address of the Surety proposed and the name and address of the responsible local claim agent.
- F. The names of members of the firm who hold appropriate trade licenses, together with license numbers.

1.17 PROJECT CLOSEOUT

- A. **Cleaning Up:** The Contractor shall at all times keep the premises free from accumulations of waste materials or rubbish from and about the project as well as all his tools, construction equipment, machinery and surplus materials. If the Contractor fails to clean up, the Owner may do so and the cost thereof shall be charged to the Contractor as provided in the General Conditions.
- B. **Project Record Documents:** The General Contractor shall maintain at the site for the Owner, one copy of all drawings, specifications, addenda, approved shop drawings, change orders and other modifications in good order and marked as "asbuilt copy" to record all changes made during construction by all contractors. These shall be available to the Owner. The drawings marked to record all changes made during construction shall be delivered to the Owner upon completion of the work. This set of drawings, specifications, and addenda shall be furnished free to the Contractor for this purpose only. Final payment will not be made to the Contractor until their "as built" portion is completed and delivered to the Engineer.
- C. **Guarantee:** The Contractor guarantees that all work executed under the plans and specifications will be free from defects of materials and workmanship for a period of one (1) year from the date of final acceptance, two (2) years from final date of acceptance within state right-of-way, and that all defects occurring within that period shall be replaced at no cost to the Owner. Where guarantees or warranties are written in any section for a period of more than one year, such longer terms shall apply. The Contractor shall, in case of work performed by his subcontractors and where guarantees are required, be responsible for fulfilling all terms of the guarantee.
- D. **Certificate of Final Payment:** When construction work has been completed and accepted by the Owner, the Contractor must execute a certificate of final payment stating that he has fully paid for all work done in connection with the construction of said project and that the said contractor has fully paid any and all claims of all persons who have furnished to the Owner in triplicate.

- 1.18 EXISTING CONDITIONS: The Contractor, in submitting a proposal and in signing this contract, acknowledges that he has thoroughly investigated the existing conditions and has examined the plans and specifications, understanding clearly their requirements and the requirements necessary to construct all to completion the improvements contracted for; that he is fully prepared to sustain all losses and damages incurred by the actions of elements; is prepared to provide all necessary tools, appliances, machinery, skilled and unskilled workmen; and all necessary materials to successfully complete the work.
- 1.19 OWNERS INSURANCE: Notwithstanding any other provision of the CONTRACT DOCUMENTS, Owner shall not be required to obtain insurance coverage other than what it maintains in its normal course of its business as of the date of this contract.
- 1.20 IDENTITY OF ENGINEER: whenever the General Conditions make reference to ENGINEER, such term shall be understood to mean the authorized representative of the Horry County Public Works Division, Office of the County Engineer.

END OF SECTION

DIVISION 1

GENERAL REQUIREMENTS

SECTION 1000

COORDINATION AND MEETINGS

PART I GENERAL

1.01 SECTION INCLUDES:

- A. Coordination
- B. Field Engineering
- C. Alteration Project Procedures
- D. Cutting and Patching
- E. Pre-construction Conference

1.02 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various Sections and Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.

1.03 FIELD ENGINEERING

- A. Owner will locate survey control and reference points.
- B. Contractor shall provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

1.04 PRE-CONSTRUCTION CONFERENCE

- A. Engineer will schedule a conference after Notice of Award.
- B. Attendance Required: Owner, Engineer's Project Manager and Inspector, and Contractor.
- C. Agenda:
 - 1. Submission of list of Subcontractors, list of Products, schedule of values and progress schedule.
 - 2. Designation of personnel representing the parties in Contract and the Engineer.
 - 3. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders and Contract close-out procedures.
 - 4. Utility Coordination
 - 5. Scheduling

END OF SECTION

SECTION 1050

APPLICATIONS FOR PAYMENT

PART I GENERAL

1.01 SECTION INCLUDES

- A. Procedures for preparation and submittal of Applications for Payment.

1.02 RELATED SECTIONS

- A. Document 0400 - Contract Forms: Contract Agreement and Application for Payment Form.
- B. Document 0500 - General Conditions.
- C. Document 1060 - Change Order Procedures.
- D. Section 1700 - Contract Close-out: Final Payment.

1.03 FORMAT

- A. Application For Payment Form: Use the one provided in the bid documents.

1.04 PREPARATION OF APPLICATIONS

- A. Present required information in typewritten form.
- B. Execute certification by signature of authorized officer.
- C. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored Products.
- D. List each authorized Change Order listing Change Order number and dollar amount as for an original item of Work. Include a copy of approved change order form.
- E. Prepare Application for Final Payment as specified in Section 1700.

1.05 SUBMITTAL PROCEDURES

- A. Submit three copies of each Application for Payment.

1.06 SUBSTANTIATING DATA

- A. When Engineer requires substantiating information, submit data justifying dollar amounts in questions.
- B. Provide one copy of data with cover letter for each copy of submittal. Show Application number and date, and line item by number and description.

END OF SECTION

SECTION 1060

CHANGE ORDER PROCEDURES

PART I GENERAL

1.01 SECTION INCLUDES

- A. Submittals.
- B. Documentation of change in contract Sum/Price and Contract Time.
- C. Change procedures.
- D. Construction Change Authorization.
- E. Unit price change orders.
- F. Execution of change orders.
- G. Correlation of Contractor submittals.

1.02 RELATED SECTIONS

- A. Document 0400 - Contract Forms: Change Order Form.
- B. Document 0500 - General Conditions: Governing requirements for changes in the Work, in Contract Sum/Price, and Contract Time.
- C. Section 1050 - Applications for Payment: Payment applications.
- D. Section 1700 - Contract Close-out: Project record documents.

1.03 SUBMITTALS

- A. Submit name of the individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Sub-contractors of changes to the Work.
- B. Change Order Forms: Use the one provided in bid documents.

1.04 DOCUMENTATION OF CHANGE IN CONTRACT SUM/PRICE AND CONTRACT TIME

- A. Maintain detailed records of work done on a time and material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work.

- B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.
- C. On request, provide additional data to support computations:
 - 1. Quantities of products, labor, and equipment.
 - 2. Taxes, insurance and bonds.
 - 3. Overhead and profit.
 - 4. Justification for any change in Contract time.
 - 5. Credit for deletions from Contract, similarly documented.
- D. Support each claim for additional costs, and for work done on a time and material basis, with additional information:
 - 1. Origin and date of claim.
 - 2. Dates and times work was performed, and by whom.
 - 3. Time records and wage rates paid.
 - 4. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

1.05 CHANGES PROCEDURES

- A. The Engineer will advise of minor changes in the Work not involving an adjustment to Contract Sum/Price or Contract Time.
- B. The Engineer may issue a Notice of Change which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within 10 days.

1.06 CONSTRUCTION CHANGE AUTHORIZATION

- A. Engineer may issue a directive, signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
- B. The document will describe changes in the Work, and will designate method of determining any change in Contract Sum/Price or Contract Time.
- C. Promptly execute the change in Work.

1.07 UNIT PRICE CHANGE ORDER

- A. For pre-determined unit prices and quantities, the Change Order will be executed based on the fixed unit prices in the proposal.
- B. For unit costs or quantities of units of work which are not pre-determined, execute Work under a construction Change Authorization.

1.08 EXECUTION OF CHANGE ORDERS

- A. Execution of Change Orders: Engineer will issue Change Orders: Engineer will issue Change Orders for signatures of parties as provided in the General Conditions of the Contract.

1.09 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum/Price.
- B. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust time for other items of work affected by the change, and resubmit.
- C. Promptly enter changes in Project Record Documents.

END OF SECTION

SECTION 1300

SUBMITTALS

PART I GENERAL

1.01 SECTION INCLUDES

- A. Submittal procedures
- B. Proposed Products list
- C. Product data.
- D. Manufacturers' instructions.
- E. Manufacturers' certificates.

1.02 RELATED SECTIONS

- A. Section 1700 - Contract Close-out: Contract warranty and manufacturer's certificates close-out submittals.

1.03 SUBMITTAL PROCEDURES

- A. Transmit each submittal to the Engineer for approval.
- B. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.
- C. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- D. Schedule submittals to expedite the Project, and deliver to Engineer. Coordinate submission of related items.
- E. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- F. Provide space for Contractor and Engineer review stamps.
- G. Revise and resubmit submittals as required, identify all changes made since previous submittal.
- H. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

1.04 PRODUCT DATA

- A. Submit the number of copies which the Contractor requires, plus two copies which will be retained by the Engineer.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project.
- C. After review, distribute in accordance with Article on Procedures above and provide copies for Record Documents described in Section 1700 - Contract Close-out.

1.05 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification Sections, submit manufacturers' certificate to Engineer for review, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

END OF SECTION

SECTION 1400

QUALITY CONTROL AND TESTING SERVICES

PART I GENERAL

1.01 SECTION INCLUDES

- A. Quality assurance and control of installation.
- B. Selection and payment.
- C. Laboratory responsibilities.
- D. Laboratory reports.
- E. Limits on testing laboratory authority.
- F. Contractor responsibilities.
- G. Schedule of inspections and tests.

1.02 RELATED SECTIONS

- A. Document 0500 - General Conditions: Inspections, testing, and approvals required by public authorities.
- B. Document 0600 - Supplementary Conditions: Material testing.
- C. Section 1300 - Submittals: Manufacturer's certificate.
- D. Section 1700 - Contract Close-out: Project Record Documents.
- E. Individual Specification Sections: Inspections and tests required, and standards for testing.

1.03 REFERENCES

- A. ANSI/ASTM D3740 - Practice for evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- B. ANSI/ASTM E329 - Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as used in Construction.

1.04 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions and workmanship to produce Work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship or specified quality.
- F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.05 SELECTION AND PAYMENT

- A. Owner will employ services of an independent testing laboratory to perform specified inspection and testing. Contractor shall pay the costs for the testing services for the areas that have to be retested due to the failure of the initial test.

1.06 LABORATORY RESPONSIBILITIES

- A. Test samples of mixes submitted by Contractor.
- B. Provide qualified personnel at site. Cooperate with Engineer/Owner and Contractor in performance of services.
- C. Perform specified inspection, sampling, and testing of Products in accordance with specified standards.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Engineer/Owner and Contractor of observed irregularities or non-conformance of Work or Products.
- F. Perform additional inspections and tests required by Engineer/Owner.
- G. Attend pre-construction conferences and progress meetings.

1.07 LABORATORY REPORTS

- A. After each inspection and test, promptly submit two copies of laboratory report to Engineer/Owner, and to Contractor.
- B. Include:
 - 1. Date issued,
 - 2. Project title and number,
 - 3. Name of inspector,
 - 4. Date and time of sampling or inspection,
 - 5. Identification of product and Specifications section,
 - 6. Location in the Project,
 - 7. Type of inspection or test,
 - 8. Date of test,
 - 9. Results of test,
 - 10. Conformance with Contract Documents.
- C. When requested by Owner and Engineer, provide interpretation of test results.

1.08 LIMITS ON TESTING LABORATORY AUTHORITY

- A. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- B. Laboratory may not approve or accept any portion of the Work.
- C. Laboratory may not assume any duties of Contractor.

1.09 CONTRACTOR RESPONSIBILITIES

- A. Deliver to laboratory at designated location, adequate samples of materials proposed to be used which require testing, along with proposed mix designs.
- B. Cooperate with laboratory personnel, and provide access to the Work.
- C. Provide incidental labor and facilities to provide access to Work to be tested, to obtain and handle samples at the site or at source of Products to be tested, to facilitate tests and inspections, storage and curing of test samples.
- D. Notify Owner and Engineer and laboratory 24 hours prior to expected time for operations requiring inspection and testing services.
- E. Arrange with laboratory and pay for additional samples and tests required by Contractor beyond specified requirements.

1.10 SCHEDULE OF INSPECTIONS AND TESTS

- A. Section 2200 and Section 2300 - Backfilling: Requirements for sampling and testing backfilled materials and trenching.
- B. Section 2400 - Hot laid asphaltic concrete pavement and base: field inspections and test of materials and compaction test.

PART II PRODUCTS

Not Used

PART III EXECUTION

Not Used

END OF SECTION

SECTION 1500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART I GENERAL

1.01 SECTION INCLUDES

- A. Temporary Controls: Barriers, enclosures and fencing, protection of the Work, and water control.
- B. Construction Facilities: Parking, progress cleaning, and project signage.

1.02 RELATED SECTIONS

- A. Section 1550 - Traffic Regulation.
- B. Section 1700 - Contract Close-out: Final cleaning.

1.03 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide barricades and walkways required by governing authorities for public right-of-ways.
- C. Provide protection from plant life designated to remain. Replace damaged plant life.
- D. Protect non-owned vehicular traffic, stored materials, site and structures from damage.

1.04 FENCING

- A. Construction: Contractor's option.

1.05 WATER CONTROL

- A. Grade site to drain. maintain excavations free of water. Provide, operate and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.06 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification Sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.

1.07 SECURITY

- A. Provide security and facilities to protect Work, and existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.08 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

PART II PRODUCTS

Not Used

PART III EXECUTION

Not Used

END OF SECTION

SECTION 1550

TRAFFIC REGULATION

PART I GENERAL

1.01 SECTION INCLUDES

- A. Flagmen.
- B. Flares and Lights.
- C. Traffic Signs and Signals.
- D. Removal.

1.02 RELATED SECTIONS

- A. Section 1500 - Construction Facilities and Temporary Controls: Barriers.

1.03 REFERENCES

- A. SCDOT Manual on Uniform Traffic Control Devices for Streets and Highways, 2003 Edition and all subsequent addenda. (Chapter 2B, Table 2B-1 for all Signs Conventional Road)

1.04 SIGNS, SIGNALS, AND DEVICES

- A. Post Mounted and Wall Mounted Traffic Control and Informational Signs: As approved by SCDOT.
- B. Automatic Traffic Control Signals: As approved by SCDOT.
- C. Traffic Cones and Drums, Flares and Lights: As approved by SCDOT.
- D. Flagman Equipment: As approved by SCDOT.

1.05 FLAGMAN

- A. Provide trained and equipped flagmen to regulate traffic when construction operations or traffic encroach on public traffic lanes.

1.06 FLARES AND LIGHTS

- A. Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

1.07 TRAFFIC SIGNS AND SIGNALS

- A. At approaches to site and on site, install at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
- B. Install and operate automatic traffic control signals to direct and maintain orderly flow of traffic in areas under Contractor's control, and areas affected by Contractor's operations.
- C. Relocate as Work progresses, to maintain effective traffic control.
- D. Maintain signs and signals at all times.

1.08 REMOVAL

- A. Remove Equipment and devices when no longer required.
- B. Repair damage caused by installation.
- C. Remove post settings to a depth of 2 feet.

END OF SECTION

SECTION 1600

MATERIAL AND EQUIPMENT

PART I GENERAL

1.01 SECTION INCLUDES:

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

1.02 RELATED SECTIONS

- A. Document 0100 - Instructions to Bidders: Product options and substitution procedures.
- B. Section 1400 - Quality Control and Testing Services monitoring.

1.03 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- C. Provide interchangeable components of the same manufacturer, for similar components.

1.04 TRANSPORTATION AND HANDLING

- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that Products comply with requirements, quantities are correct, and Products are undamaged.
- C. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.05 STORAGE AND PROTECTION

- A. Store and protect Products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive Products in weather-tight, climate controlled enclosures.
- B. For exterior storage of fabricated Products, place on sloped supports, above ground.
- C. Provide off-site storage and protection when site does not permit on-site storage or protection.
- D. Cover Products subject to deterioration with impervious sheeting covering. Provide ventilation to avoid condensation.
- E. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- F. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- G. Arrange storage of Products to permit access for inspection. Periodically inspect to assure Products are undamaged and are maintained under specified conditions.

1.06 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

1.07 SUBSTITUTIONS

- A. Engineer will consider requests for Substitutions only within 15 days after date of Owner-Contractor Agreement.
- B. Substitutions may be considered when a Product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the Contractor:

1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
2. Will provide the same warranty for the Substitution as for the specified Product.
3. Will coordinate installation and make changes to other Work to be complete with no additional cost to Owner.
4. Waives claims for additional costs or time extension which may subsequently become apparent.

E. Substitutions Submittal Procedure:

1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
2. Submit shop drawings, Product data, and certified test results attesting to the proposed Product equivalence.
3. The Engineer will notify Contractor, in writing, of decision to accept or reject request.

PART II PRODUCTS

Not Used

PART III EXECUTION

Not Used

END OF SECTION

SECTION 1700

CONTRACT CLOSEOUT

PART I GENERAL

1.01 SECTION INCLUDES:

- A. Close-out Procedures.
- B. Final Cleaning.
- C. Adjusting.
- D. Project Record Documents.
- E. Spare Parts and Maintenance Materials.

1.02 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected and that Work is complete in accordance with Contract Documents and ready for Engineer's inspection.
- B. Submit Final Application for Payment identifying total adjusted Contract Sum, previous payments and sum remaining due.

1.03 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean site; sweep paved areas, rake clean landscaped surfaces.
- C. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.04 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.05 PROJECT RECORD DOCUMENTS

- A. Maintain on site, one set of the following record documents; record actual revisions to the Work:
 - 1. Contract Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other Modifications to the Contract.
 - 5. Reviewed shop drawings, product data and samples.
 - 6. Applications for payment.
- B. Store Record Documents separate from documents used for construction.

- C. Record information concurrent with construction progress.
- D. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured depths of foundations in relation to finish elevation.
 - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible feature of the Work.
 - 4. Field changes of dimension and detail.
 - 5. Details not on original Contract Drawings.
- E. Submit full set of above documents to Engineer with claim for final Application for Payment.

1.06 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.
- B. Deliver to Project site and place in location as directed.

PART II PRODUCTS

Not Used

PART III EXECUTION

Not Used

END OF SECTION

DIVISION 2
SITE WORK

SECTION 2000

SITE CLEARING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Removal of surface debris.
- B. Clear site of plant life and grass.

1.02 REGULATORY REQUIREMENTS

- A. Conform to applicable code for disposal of debris.
- B. Coordinate clearing work with utility companies.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.01 PREPARATION

- A. Contractor shall clear and grub all areas necessary to allow implementation of the infrastructure.
- B. Clear all subsurface roots, plant life and debris a minimum of 1 foot deep.

3.02 PROTECTION

- A. Protect utilities that remain from damage.
- B. Protect bench marks and existing structures from damage or displacement.

3.03 REMOVAL

- A. Remove debris, rock and extracted plant life from site.

END OF SECTION

SECTION 2100

EXCAVATION

PART I GENERAL

1.01 SECTION INCLUDES

- A. Grading and excavation for roadway and drives.
- B. Grading and excavation for pipelines and channels.
- C. All excavation, formation of embankments and finishing and dressing of graded earth areas, shoulders and ditches.

1.02 RELATED SECTIONS

- A. Section 1400 - Quality Control Testing
- B. Section 2200 - Backfilling
- C. Section 2300 - Trenching: Excavation for Utilities.

1.03 FIELD MEASUREMENT

- A. Verify that shot survey bench mark and intended elevations for the work are as indicated.

PART II PRODUCTS Not Used

PART III EXECUTION

3.01 GENERAL

- A. The term "excavation" used hereinafter is defined as "unclassified excavation". Excavation of every description regardless of material encountered within the grading limits of the project, shall be performed to the lines and grades indicated. Satisfactory excavated material shall be transported to and placed in the fill areas within the limits of the work. When directed by the Engineer, unsatisfactory material encountered within the limits of the work shall be excavated below the grade shown and replaced with satisfactory material as directed in order to obtain the required surface condition and density to sustain the subsequent work. Such material ordered as a replacement shall be paid for at the unit prices given in the stated allowance shown in the proposal. Unsatisfactory and surplus excavation material not required for fill shall be disposed of by the Contractor off of the Owner's property as part of the contract price. During construction, excavation and filling shall be performed in a manner and sequence that will provide drainage at all times. Except where otherwise shown on the plans or as directed,

the unsatisfactory soils shall be removed to a depth required and filled with selected sands and sand clays from borrow excavations that will provide a firm, unyielding subgrade at the specified density. See Section 2200 - Backfilling for additional details.

- B. 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. The finished surface shall be not more than 0.10 foot above or below the established grade or approved cross section. Gutters and ditches shall be finished so as to permit adequate drainage.
- C. All vegetation, roots, brush, sod, broken pavements, rubbish and other unsatisfactory or surplus material stripped or removed from the limits of construction shall be hauled off the Owner's property and disposed of by the Contractor as part of the contract price. The material shall be dumped, spread and leveled to drain.
- D. The Contractor shall be responsible for control of erosion and sedimentation during the work. Silt screens, hay bales or other devices as required shall be installed to prevent off-site deposits of eroded materials. Similar devices shall be placed around storm drain catch basins and inlets to prevent the infiltration of soil materials into the underground drainage system. Such devices shall be maintained until all site work is complete.

3.02 CONSERVATION OF TOPSOIL

- A. Areas designated for grading operations that contain a blanket of soil which is more satisfactory for the growth of grass than the embankment material to be placed, as determined by the Engineer, shall be stripped to a depth of approximately four to six inches and placed in convenient stockpiles as directed in the field, for later use as a topsoil blanket on the new graded areas specified herein, or as designated.
- B. Material ordered stockpiled shall be placed in satisfactory manner to afford drainage.
- C. When grading operations permit, instead of stockpiling, the topsoil shall be hauled and spread directly on the areas to receive topsoil.
- D. Surplus topsoil shall remain the property of the Owner.
- E. This work shall be the responsibility of the Contractor and considered subsidiary to the contract work.

3.03 PROTECTION OF EXISTING SERVICE LINES, UTILITIES AND STRUCTURES

- A. Existing utility lines and structures that are shown on the drawings or the locations of other utility lines which may exist in the project area, as well as utility lines constructed during excavation operations, shall be protected from damage during excavation, and if damaged, shall be repaired by the Contractor at his expense.
- B. When utility lines that are to be removed or relocated are encountered within the area of operations, the Contractor shall notify the utility company in ample time for the necessary measures to be taken to prevent interruption of the service.
- C. It shall be the Contractor's responsibility to contact all utility companies with services in the area for an accurate location of the respective utilities prior to beginning excavation.

3.04 EXCAVATION OF DITCHES

- A. Ditches shall be cut accurately to the cross sections and grades indicated by the drawings.
- B. All roots, stumps and other foreign matter in the sides and bottom of ditches shall be cut one foot below the grades indicated.
- C. Any excessive ditch excavation due to the removal of roots, stumps, etc., or due to over-excavation shall be backfilled to grade either with satisfactory soils, thoroughly compacted, or with suitable stone or cobble to form an adequate ditch paving, as directed at no additional cost to the Owner.
- D. The Contractor shall maintain all ditches excavated under this specification free from detrimental quantities of leaves, sticks and other debris until final acceptance of the work.
- E. Satisfactory earth material excavated from ditches and channel changes shall be placed in fill areas as directed.
- F. All excess excavation and debris shall be disposed of off-site at the Contractor's expense unless otherwise approved in writing by the Engineer/Owner.
- G. No diking or berming of soils along the bank will be permitted.
- H. No excavated materials shall be deposited within the distance of three feet from the edge of any ditches.
- I. When storm drain pipe terminates in a new ditch, ditch pavement, if specified, shall be constructed immediately as called for on the plans.
- J. The Contractor shall be responsible for maintaining these newly constructed ditches and take immediate action to keep erosion of the ditch bottom and slopes to a minimum during the life of the contract. No additional compensation will be given to the Contractor for the required maintenance. See Section 2300 -

Trenching for additional details.

3.05 PREPARATION

- A. Identify required lines, levels, contours and datum.
- B. Identify known underground, above ground and aerial utilities. Stake and flag locations.
- C. Protect above and below grade utilities which are to remain.
- D. Protect plant life, lawns and other features remaining as a portion of final landscaping.
- E. Protect bench marks, existing structures, fences, sidewalks, paving and curbs from excavation equipment and vehicular traffic.

3.06 EXCAVATION

- A. Underpin adjacent structures which may be damaged by excavation work, including utilities and pipe chases.
- B. Excavate subsoil required to accommodate building foundations, slabs-on-grade, paving and site structures.
- C. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- D. Hand trim excavation. Remove loose matter.
- E. Remove lumped subsoil, boulders and rock up to 1/3 cubic yard measured by volume.
- F. Notify Engineer/Owner of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- G. Correct unauthorized excavation at no extra cost to Owner.
- H. Remove excess excavated material not being used from the site at no additional cost to the Owner.

3.07 FIELD QUALITY CONTROL

- A. Field inspection will be performed under provisions of Section 1400.

B. Provide for visual inspection of bearing surfaces.

3.08 PROTECTION

A. Protect excavations by methods required to prevent cave-in or loose soil from falling into excavation.

END OF SECTION

SECTION 2200

BACKFILLING

PART I GENERAL

1.01 SECTION INCLUDES

- A. Building perimeter and site structure backfilling to subgrade elevations.
- B. Site filling and backfilling.
- C. Fill and compaction of trenches.
- D. Fill under slabs-on-grade and paving.
- E. Consolidation and compaction.
- F. Fill for over-excavation.

1.02 RELATED SECTIONS

- A. Section 1400 - Quality Control and Testing Services.
- B. Section 2100 - Excavation.
- C. Section 2300 - Trenching: Backfilling of utility trenches.

1.03 REFERENCES

- A. ANSI/ASTM C136 - Method for sieve analysis of fine and course aggregates.
- B. ANSI/ASTM D1556 - Test method for density of soil in place by the sand cone method.
- C. ANSI/ASTM D1557 - Test methods for moisture - density relations of soils and soil aggregate mixtures using 10 15 hammer and 18 inch drop.
- D. ANSI/ASTM D2922 - Test methods for density of soils in place by nuclear methods.

1.04 SUBMITTALS

- A. Submit under provisions of Section 1300.

PART II PRODUCTS

2.01 FILL MATERIALS

- A. Type A (Class 1) - Course Stone Crushed: Angular, washed natural stone: free of shale, clay, friable material, sand, debris; graded in accordance with ANSI/ASTM C136 within the following limits:

Sieve Size	Percent Passing
2 inches	100
1 inch	95
3/4 inch	95 to 100
5/8 inch	75 to 100
3/8 inch	55 to 85
No. 4	35 to 60
No. 16	15 to 35
No. 40	10 to 25
No. 200	5 to 10

- B. Type B (Class 2) - Pea Gravel: Natural stone; washed, free of clay, shale, organic matter; graded in accordance with ANSI/ASTM, to the following:

1. Minimum Size: 1/4 inch
2. Maximum Size: 5/8 inch

- C. Type C (Class 3) - Sand: Natural river or bank sand; washed: Free of silt, clay, loam friable or soluble materials or organic matter; graded in accordance with ANSI/ASTM C136, within the following limits:

Sieve Size	Percent Passing
No. 4	100
No. 14	10 to 100
No. 50	5 to 90
No. 100	4 to 30
No. 200	0

- D. Subsoil: Reused and/or imported, free of gravel larger than 3 inch size, roots and other organic material and trash and approved by the Engineer.

PART III EXECUTION

3.01 EXAMINATION

- A. Verify from Engineer/Owner fill materials to be reused are acceptable.

3.02 PREPARATION

- A. Generally, compact subgrade to density requirements for subsequent backfill materials.
- B. Cut out soft areas of subgrade not capable of in situ compaction. Backfill with Type C fill and compact to density equal to or greater than requirements for subsequent backfill material.
- C. Prior to placement of aggregate base course material at gravel or paved areas, compact subsoil 98 percent of its maximum dry density in accordance with ANSI/ASTM D1557 and AASHTO T-180.
- D. 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 to be placed shall be stripped or otherwise removed before the fill is started.
- E. In no case will unstable material remain in or under the fill area that will prevent the placement and compaction of subsequent layers to the specified densities.
- F. Sloped ground surfaces steeper than one vertical to four horizontal on which fill is to be placed shall be plowed, stepped and benched, or broken up as directed, in such manner that the fill material will bond with the existing surface.
- G. Prepared surfaces on which compacted fill is to be placed shall be scarified, wetted or dried as may be required to obtain the compaction specified.

3.03 BACKFILLING

- A. Backfill areas at the locations and to lines and elevations shown on the plans.
- B. Filled areas shall conform to the shape of the typical sections indicated or shall meet the requirements of the particular case.
- C. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- D. Granular Sand Fill: Place and compact materials in continuous layers not exceeding 6 inches compacted depth.
- E. Soil Fill: Place and compact material in continuous layers not exceeding 8 inches compact depth.
- F. Employ a placement method that does not disturb or damage utilities in trenches.
- G. Maintain optimum moisture content of backfill materials to attain required compaction density.

- H. Slope grade away from buildings minimum 2 inches in 10 ft., unless noted otherwise.
- I. Make grade changes gradual. Blend slope into level areas.
- J. Remove surplus backfill materials from site.
- K. Leave fill material stockpile areas completely free of excess unsuitable materials.

3.04 TOLERANCES

- A. Top Surface of Backfilling: Plus or minus five hundredths from required elevations.

3.05 FIELD QUALITY CONTROL

- A. Field inspection will be performed by the Owner.
- B. Field testing will be performed under provisions of Section 1400.
- C. Tests and analysis of fill material will be performed in accordance with ANSI/ASTM D1557 (AASHTO - T-180) and ANSI/ASTM D2922 with Section 1400.
- D. Compaction testing will be performed in accordance with ANSI/ASTM D2922 and ANSI/ASTM D1557 (AASHTO-190).
- E. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to owner.
- F. Frequency of tests: as required by the testing firm or as directed by the Engineer.
- G. Proof roll all compacted fill surfaces under paving.

3.06 PROTECTION OF FINISHED WORK

- A. Protect all finished Work.
- B. Recompact fills subjected to vehicular traffic.

3.07 COMPACTION REQUIREMENTS

- A. The compaction of fill materials shall meet the following requirements as determined by the maximum density obtained at optimum moisture content by an approved laboratory.

- a. Fill under buildings100%
- b. Fill under paved areas 98%
- c. Fill in other areas 95%

B. The Contractor shall be responsible for compaction of the existing soils to meet the above compaction requirements.

C. The Contractor will be responsible for compacting the sub-base to the required density by whatever means necessary.

3.08 SCHEDULE

A. Fill under grassed areas.

- 1. Subsoil fill, to finished grade

B. Fill under asphaltic concrete pavement.

- 1. Type C fill to 8 inches below finished paving elevation.

END OF SECTION

SECTION 2405

BASE COURSE MATERIAL

PART I GENERAL

1.01 SECTION INCLUDES

- A. Stabilized Aggregate Base Coarse.
- B. Subgrade Preparation.

1.02 RELATED SECTIONS

- A. Section 2100 - Excavation.
- B. Section 2200 - Backfilling.
- C. Section 2300 - Trenching.
- D. Section 2450 - Hot Mix Asphalt Pavement

1.03 REFERENCES

- A. SCDOT Standard Specifications, Latest Edition.
- B. SCDOT Manual of Uniform Traffic Control Devices for Streets and Highways.

1.04 QUALITY ASSURANCE

- A. Perform work in accordance with the SCDOT Standards.
- B. Obtain materials from same source throughout.

1.05 TESTING REQUIREMENTS

- A. Testing and analysis of asphaltic mix will be performed under provisions of Section 1400 - Quality Control and Testing Services.
- B. Submit proposed mix design of each class of mix for review prior to commencement of work.
- C. Gradation of materials shall be in accordance with ASTM C136.

1.06 SUBMITTALS

- A. Certificates: Provide certificates stating that materials supplied comply with the specifications. Certificates shall be signed by asphalt producer and Contractor.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Place base course when air temperature is above 40 degrees F. and rising.

1.08 DEFINITIONS

- A. Pavement Structure: The combination of sub-base, base, pavement or other specified layer placed on the subgrade to support the traffic load and distribute it to the roadbed.
- B. Pavement: The uppermost layer of material placed on the base course consisting of one or more layers of asphaltic concrete. The binder, intermediate and surface wearing courses are considered part of the pavement. The term has the same intent and meaning as "surface" or "surfacing".

PART II PRODUCTS

2.01 STABILIZED AGGREGATE BASE COARSE MATERIALS

- A. Base coarse shall be composed of coarse aggregate together with fine aggregate or binder material and water, which shall be mixed, compacted and primed.
- B. Material must come from a SCDOT approved pit unless otherwise specified on the plans or by the Engineer/Owner.
- C. Stabilized aggregate base shall meet the composite mixture gradation:

Sieve Designation	Percentage by Weight Passing
1 1/2"	100
1"	--
3/4"	65 - 100
1/2"	50 - 90
3/8"	45 - 70
No. 4	35 - 55
No. 30	17 - 38
No. 200 (liquid amount - 25 max.)	
(plasticity index - 6 max.)	6 - 15

The amount passing the number 200 shall be determined by the wash method.

- D. Meet all requirements in the SCDOT standard specifications for highway construction, Section 306 (1986 Edition).

2.02 SUBGRADE PREPARATION

- A. Work shall consist of the removal of existing base courses and the construction and preparation of the subgrade on that part of the roadway intended to receive the pavement, sidewalks, curb, curb and gutter, base course, and shoulders.
- B. After all earthwork has been substantially completed and all drains and structures have been completed and backfilled, the subgrade, when compared to the satisfaction of the Engineer/Owner, shall conform to the lines and grades shown on the plans or as established by the Engineer/Owner.

2.03 COQUINA BASE COURSE

- A. Coquina base shall be from an approved SCDOT pit, unless otherwise specified on the plans or by the Engineer/Owner.
- B. Coquina base course shall meet the following composite mixture gradation:

Passing 3 ½" sieve, % by weight	100	-
Passing No. 200 sieve, % by weight	5	30
Liquid limit	---	30
Plasticity Index	---	6

*Amount passing the No. 200 sieve shall be determined by the wash method.

- C. Coquina shell base shall be composed of a mixture of aggregated shells, shell fragments and varying amounts of sand and clay obtained from naturally existing deposits.

PART III EXECUTION

3.01 INSPECTION

- A. Verify compacted subgrade is dry and ready to support a compacted base course.
- B. Verify compacted base course is dry and ready to support paving and imposed loads.
- C. Verify gradients and elevations of subgrade and base course respectively are correct before next stage of construction begins.
- D. Beginning of installation means acceptance of substrate.

3.02 SUBGRADE PREPARATION

- A. Remove existing base course; shape and compact subgrade.

- B. Prior to beginning paving work, inspect subgrade for loose or soft material, rock or organic matter. No stones over 2" in diameter will be allowed in to 6" of subgrade.
- C. Proof roll cut subgrade using loaded 20 ton dump truck or similar weight construction equipment to verify that subgrades are stable and to identify loose or soft areas requiring undercutting or stabilization.
- D. Stabilization of soft or unstable subgrades shall be accomplished to minimum depth of 6". Stabilizing aggregate shall be of type specified for base course aggregate unless otherwise shown on the plans or stated by the Engineer.
- E. Verify elevations and cross sections of subgrade immediately prior to placing base course material.

3.03 BASE COURSE PREPARATION

- A. The base course shall be placed on the approved subgrade and uniformly spread.
- B. Shape base to provide thicknesses and widths shown on the plans.
- C. Care shall be taken to prevent segregation of the fine from the coarse aggregates during the handling, spreading or shaping of the materials. All areas of segregation shall be corrected.
- D. The base shall be consolidated by rolling until the base is thoroughly bonded and compacted to a minimum density of 100%.
- E. Apply primer over substrate at uniform rate of 1/3 gal/sq. yard.
- F. Apply primer in accordance with SCDOT's Standard Specifications.
- G. Use clean sand to blot excess primer.
- H. Apply primer to contact surfaces of curbs and gutters.
- I. Coat surfaces of manhole and catch basin frames with oil to prevent bond with asphalt paving.

3.04 TOLERANCES

- A. Compaction and Density Requirements:
 - 1. Base and sub-base: Compact to 100% and 98% respectively.
- B. Allowable Variation in Thickness:
 - 1. Base course: (+/-) 1/2".
- C. Surface Smoothness: Test finished surface of each course for smoothness using a

10' straight edge. Intervals of tests shall be as directed by the Engineer. Surfaces will not be acceptable if exceeding the following:

1. Base course: 1/2" in 10'-0".
 2. Surface (wearing) course: 1/4" in 10' - 0".
- D. Laboratory shall test in place courses for compliance with specified density, thickness and surface smoothness.
- E. Contractor's duties relative to testing shall include:
1. Coordinating with Engineer/Owner and laboratory for field testing.
 2. Paying costs for retesting where initial tests reveal non conformance with specified requirements.

3.05 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 1400.

3.06 TRAFFIC CONTROL

- A. Comply with State Manual of Uniform Traffic Devices for Streets and Highways.
- B. Maintain vehicular and pedestrian traffic during placement operations as required for other construction activities. Flagmen may be required.
- C. Provide flagmen, barricades, warning signs and warning lights for movement of traffic and safety and to cause the least interruption of work.

3.07 CLEANING AND PROTECTION

- A. At completion of each operation, remove excess or spilled materials from site.

END OF SECTION

SECTION 2500

STORM DRAINAGE SYSTEMS

PART I GENERAL

1.01 SECTION INCLUDES

- A. Storm drainage piping, fittings and accessories.
- B. Catch basins, junction boxes and drop inlets.

1.02 REFERENCES

- A. ANSI/ASTM C76 - Reinforced Concrete Culvert, Storm Drain and Sewer Pipe.
- B. American Association of State Highway and Transportation Officials Specification M-196.

1.03 RELATED SECTIONS

- A. Section 2200 - Backfilling.
- B. Section 2300 - Trenching.
- C. Section 3250 - Concrete.

PART II PRODUCTS

2.01 DRAINAGE PIPE MATERIALS

- A. Reinforced Concrete Pipe: ANSI/ASTM C76, Class III with concrete pipe; mesh reinforcement and inside nominal diameter as shown on plans.
- B. **Only straight joint pipes with rubber seal should be used, no bell joint pipe shall be used.**

2.02 CATCH BASINS, DROP INLETS, JUNCTION BOX FRAMES AND GRATES

- A. Basin Lid and Frame: Cast iron construction, as specified on the plans.
- B. Manhole castings shall be cast iron meeting ASTM Serial Designation A48-62, Class 30B. They shall be "Anti-Rattle type.
- C. Shaft construction to be 8" concrete brick or reinforced precast concrete basin sections, lipped male/female dry joints; nominal size, 4 feet square.
- D. Base Pad: Cast-in-place 3000 psi concrete leveled top surface to receive concrete brick or pre-cast concrete section.

2.03 JUNCTION BOXES

- A. Lid and Frame: Cast iron construction, removable lid, nominal lid and frame diameter of 24 inches as shown on the plans.
- B. Shaft construction to be 8" concrete brick or reinforced precast concrete basin sections, lipped male/female dry joints; nominal size, 4 feet square unless shown otherwise on the plans.
- C. Base Pad: Cast-in-place 3000 psi concrete leveled top surface to receive concrete brick or pre-cast concrete section.
- D. Manholes used as junction boxes shall have the following diameters based upon the largest size pipe:
 - 15" pipe4 feet
 - 18" pipe5 feet
- E. For larger pipes, pre-cast manhole junction boxes must have prior approval of the Engineer.
- F. Pre-cast concrete manholes shall meet ASTM Specifications, Serial Designation C478-64T or latest revision and have "O" ring gasket joints meeting ASTM Specifications, Serial Designation D443-65 or latest revision.

2.04 BRICK

- A. Brick shall meet ASTM Serial Designation C26 for common brick, Grade C.

2.05 CEMENT MORTAR JOINTS

- A. All concrete pipe shall be laid with cement mortar joints. The mortar mixture shall be one part portland cement and two parts clean sand by volume.
- B. Only enough water shall be used to make a stiff, workable mortar and no more than 5.5 gallons of water per sack of cement shall be used.

2.06 CONCRETE MATERIALS

- A. Portland Cement shall conform to Section 3250 and the specifications of ASTM, Serial Designation C-150-62 or latest revision.
- B. Cement shall be stored in a weather-tight enclosure.
- C. Hydrated lime shall meet the specifications of ASTM, Serial Designation C207-49, or latest revision.
- D. Fine aggregate shall conform to the following ASTM Specifications, latest revisions:
 - for concrete: Serial Designation C33-66T
 - for masonry mortar: Serial Designation C144-62T
- E. Coarse aggregate for concrete shall consist of crushed granite conforming to the current ASTM Specifications C33. Aggregate shall be cleaned, hard and

uncoated.

- F. Water for mortar and concrete must not be contaminated by salt, oil, acid or other material which may be harmful.

2.07 REINFORCING STEEL

- A. Reinforcing steel shall be of the lengths and sizes shown on the plans.
- B. Reinforcing steel shall be of approved deformed type and meet all requirements of ASTM Standard Specifications for new Billet Steel Reinforcement Bars, serial Designation A150-62T. Bars will be structural or intermediate grade open hearth steel.

2.08 BACKFILL MATERIALS

- A. Reused or imported subsoil as specified in Section 2200 and approved by the Engineer.
- B. Type C for any pipe crossing beneath roadways.
- C. Type C shall be utilized in areas of poor soil conditions as directed by the Engineer.

PART III EXECUTION

3.01 EXAMINATION

- A. Contractor shall notify Engineer/Owner so the trench cut or excavation base can be verified if it is ready to receive work and excavations, dimensions and elevations are as indicated on drawings.
- B. Beginning of installation means acceptance of existing conditions.

3.02 PREPARATION

- A. Hand trim excavations to required elevations. Correct over excavation with fill material of fine aggregate.
- B. Remove large stones or other hard matter which could damage drainage tile or impede consistent backfilling or compaction.

3.03 INSTALLATION - PIPE

- A. Lay pipe to slope gradients noted on drawings with maximum variation from true slope of 1/8 inch in 10 feet.
- B. Increase compaction of each successive lift. Do not displace or damage pipe when compacting.

- C. Storm drain pipe and appurtenant structures shall be installed in accordance with Section 2300 - Trenching and Section 2200 -Backfilling.
- D. All pipe shall be laid with the bells uphill.
- E. Clean the pipe ends and wet before the joint is made.
- F. Apply stiff mortar to the lower half of the bell of the pipe already laid and the upper half of the tongue of the pipe to be laid. The joint shall then be made and drawn tight. Use of an approved joint sealant may be substituted for mortar.
- G. Additional mortar shall be applied to the outside to fill any unfilled portion of the groove.
- H. Backfill shall be done so as not to disturb the mortar joints.
- I. Fill must be approved by the Engineer/Owner before placement.
- J. Spoil from the excavation may not be utilized at these locations unless specifically approved by the Engineer/Owner.
- K. In all locations where storm water drainage pipe crosses beneath roadways, Fill shall be suitable material in non pavement areas and aggregate backfill material in pavement areas and compacted to 95% of the soils standard proctor.
- L. When completed, each pipe line shall show a neat circular bore when lamped.
- M. All perforated pipe shall be backfilled with select backfill material and compacted.
- N. Prior to placing perforated pipe and after the trench has been excavated an approved construction fabric will be placed in the trench and wrapped around the pipe, the perforated pipe placed, backfill over pipe with select material and compact.

3.04 INSTALLATION - CATCH BASINS, DROP INLETS AND JUNCTION BOXES

- A. Form bottom of excavation clean and smooth to correct elevation.
- B. Form and place cast-in-place concrete base pad with provision for storm sewer pipe end sections.
- C. Establish elevations and pipe inverts for inlets and outlets as indicated.
- D. Mount lid and frame level in grout, secured to top cone section to elevation indicated.

- E. Inverts shall be smooth with uniform slopes from invert to invert.
- F. Brick structures shall have every fifth course of brick laid as headers. Other courses shall be stretchers.
- G. All mortar joints shall be full.
- H. Inside mortar joints shall be rubbed full and struck.
- I. The outside of the brick work shall be covered with 0.5 inches of mortar.

3.05 FIELD QUALITY CONTROL

- A. Testing shall be in accordance with Section 1400.

3.06 PROTECTION

- A. Protect pipe from damage or displacement until backfilling operation is in progress.
- B. Protect drainage piping and catch basins from siltation during construction by covering with filter fabric.

3.07 RELAID PIPE CULVERTS

- A. The work shall consist of carefully exposing, taking up, cleaning out and relaying the existing pipe sections to the lines and grades shown on the plans.
- B. Exercise care and use proper equipment in removing pipe. Pipe damaged through negligence, or improper handling, shall be replaced with new pipe at the contractor's expense.
- C. Pipe joint sealant shall be installed during assembly.

END OF SECTION

SECTION 2800

SEEDING

PART I GENERAL

1.01 WORK INCLUDED

- A. Preparation of soil.
- B. Fertilizing.
- C. Seeding

1.02 RELATED WORK

- A. Section 2200 - Backfilling.
- B. Section 2300 - Trenching.

1.03 REFERENCES

- A. SCDOT Standard Specifications.

1.04 DEFINITIONS

- A. Weeds: Includes Dandelion, Jimsonweed, Quack grass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel and Brome Grass.

1.05 REGULATORY REQUIREMENTS

- A. Seed and fertilizer shall conform to all State laws and the State Department of Agriculture regulations.

1.06 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, origin, germination percentages and purity.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis and name of manufacturer.

PART II PRODUCTS

2.01 SEED MIXTURE

- A. Seed Mixture: As specified in the SCDOT Standard Specification, Edition 1973, Section 810, Pages 550 - 599 "SEEDINGS" except as follows:

APPLICATION RATE PER ACRE

URBAN / SUBURBAN AREAS

<u>April 1 - August 31</u>	<u>September 1 – March 31</u>
10 lb. Browntop Millet	10 lb. Annual Rye Grass
6 lb. Common Hulled Bermuda	6 lb. Common Hulled Bermuda
10 lb. Carpetgrass	10 lb. Carpetgrass

RURAL AREAS

<u>April 1 - August 31</u>	<u>September 1 – March 31</u>
30 lb. Bahia Grass	30 lb Bahia Grass
10 lb Browntop Millet	10 lb. Annual Rye Grass

2.02 SOD

- A. Type pre-approved in writing by Engineer and Owner.

2.03 SOIL MATERIALS

- A. Topsoil: Topsoil shall be placed on all road shoulders prior to seeding. Topsoil may be excavated from site or imported and shall be free of weeds and insect pests.

2.04 ACCESSORIES

- A. Fertilizer: FS O-F-241, Recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, to the following proportions: Nitrogen 10 percent, phosphoric acid 20 percent, soluble potash 10 percent or as directed by the Owner/Engineer. Application rate shall be 1,000 pounds per acre (25 lbs. per 1,000 square feet).
- B. Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of grass.
- C. Lime: Lime shall be applied at the rate of 3,000 pounds per acre (69 lbs. per 1,000 square foot) and shall be ground limestone containing not less than 85% of total carbonate. Lime shall be ground such that at least 50% will pass through a #20 sieve.

PART III EXECUTION

3.01 GENERAL

- A. All graded areas except those to be occupied by pavement, walks, buildings, gravel, rip-rap or other surface shall be grassed.
- B. All disturbed areas which shall be undisturbed for 14 days or more shall be grassed.
- C. The seed bed shall be of loose soil. If necessary, light tilling shall be done to break up crusts and provide enough loose soil to cover the seed.
- D. The topsoil shall be graded to the finished grades specified.
- E. Fertilizer and lime shall be uniformly distributed over the area in the quantities specified herein.
- F. During the grading operations, all stones, stakes, wires, etc., that may be a hindrance to mowing operations shall be removed.
- G. Swale and ditch bottoms shall be seeded at double the rate specified above.
- H. Mulch or straw shall be applied to all seeded areas within 24 hours after covering the seed at the rate of two tons per acre (92 pounds per 1,000 square feet), unless these areas are hydroseeded.

3.02 INSPECTION

- A. Verify that prepared soil base is ready to receive the work of this section.
- B. Beginning of installation means acceptance of existing site conditions.

3.03 SEEDING

- A. Apply seed at the rate given for the appropriate mixture evenly in two perpendicular directions.
- B. Do not sow immediately following rain, when ground is too dry or during windy periods.
- C. Roll seeded area with roller not exceeding 112 lbs.
- D. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.
- E. The Owner and/or Engineer reserves the right to test and approve or reject all seed before application.

3.04 FERTILIZING

- A. Apply fertilizer at a rate of 1,000 lbs./acre.
- B. Apply after smooth raking of topsoil and prior to roller compaction.
- C. Do not apply fertilizer at same time or with same machine as will be used to apply seed, except in the case of hydroseeding.
- D. Mix thoroughly into upper 2 inches of topsoil.
- E. Lightly water to aid the dissipation of fertilizer.

3.05 HYDROSEEDING

- A. Hydroseeding shall consist of application of a mixture of grass seed, lime, fertilizer, a wood cellulose fiber, green non-toxic dye and water in the form of a homogeneous slurry dispersed under pressure from a hydraulic sprayer. The fibers shall be manufactured specifically for this purpose. The fiber shall intertwine physically to form a strong, moisture holding, water permeable mat on the ground surface.
- B. Application: Hydroseeding shall be applied at the rate of 1500 lbs. per acre (34 lbs. per 1000 SF). Seed type and rates are as shown above. Should the seed fail to fully germinate additional applications may be required at no additional expense to the Owner.

The hydraulic equipment shall have a built-in agitation system with adequate capacity to agitate and mix the slurry to a homogenous mix. The slurry distribution lines shall be equipped with a set of spray nozzles which will provide even distribution of the slurry. The slurry tank shall have a minimum capacity of 1000 gallons. The slurry shall be applied in a uniform visible coat with adequate coverage leaving no bare spots.
- C. Overspray of shrub and flower beds shall be avoided. Overspray on signs, mailboxes, utility boxes, roads, driveways and other hard surfaces or objects shall be promptly cleaned off.

END OF SECTION

DIVISIONS

3 - 16

NOT USED