STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH, N.C.

PROPOSAL

DATE AND TIME OF BID OPENING: **AUGUST 17, 2004 AT 2:00 PM**

CONTRACT ID	C200856
WBS	33006.3.2
FEDERAL-AID NO.	BRSTP-264(26)
COUNTY	HYDE
T.I.P. NO.	B-3348
MILES	0.451
ROUTE NO.	US 264
LOCATION	BRIDGE OVER KITTY CREEK & BRIDGE OVER WALLACE CANAL AND APPROACHES ON US-264.
TYPE OF WORK	GRADING, DRAINAGE, PAVING, SIGNALS & STRUCTURE.

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS $30,000 OR MORE, EXCEPT FOR CERTAIN SPECAILITY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFREGIRATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA.

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS A ROADWAY & STRUCTURE PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

_____

PROPOSAL FORM FOR THE CONSTRUCTION OF CONTRACT NO. C200856

IN HYDE COUNTY NORTH CAROLINA

Date_____ 20__

DEPARTMENT OF TRANSPORTATION,

RALEIGH, NORTH CAROLINA

The Bidder has carefully examined the location of the proposed work to be known as Contract No. C200856; has carefully examined the plans and specifications, which are acknowledged to be part of the proposal, the special provisions, the proposal, the form of contract, and the forms of contract payment bond and contract performance bond; and thoroughly understands the stipulations, requirements and provisions. The undersigned bidder agrees to bound upon his execution of the bid and subsequent award to him by the Board of Transportation in accordance with this proposal to provide the necessary contract payment bond and contract performance bond within fourteen days after the written notice of award is received by him. The undersigned Bidder further agrees to provide all necessary machinery, tools, labor, and other means of construction; and to do all the work and to furnish all materials, except as otherwise noted, necessary to perform and complete the said contract in accordance with the 2002 Standard Specifications for Roads and Structures by the dates(s) specified in the Project Special Provisions and in accordance with the requirements of the Engineer, and at the unit or lump sum prices, as the case may be, for the various items given on the sheets contained herein.

The Bidder shall provide and furnish all the materials, machinery, implements, appliances and tools, and perform the work and required labor to construct and complete State Highway Contract No. C200856

In Hyde County, for the unit or lump sum prices, as the case may be, bid by the Bidder in his bid and according to the proposal, plans, and specifications prepared by said Department, which proposal, plans, and specifications show the details covering this project, and hereby become a part of this contract.

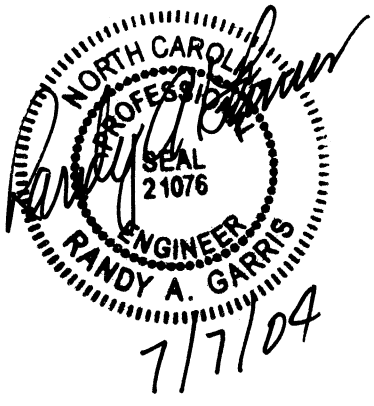
The published volume entitled "North Carolina Department of Transportation, Raleigh, Standard Specifications for Roads and Structures, January 2002 with all amendments and supplements thereto, is by reference incorporated into and made a part of this contract; that, except as herein modified, all the Construction and work included in this contract is to be done in accordance with the specifications contained in said volume, and amendments and supplements thereto, under the direction of the Engineer.

If the proposal is accepted and the award is made, the contract is valid only when signed either by the Contract Officer or such other person as may be designated by the Secretary to sign for the Department of Transportation. The conditions and provisions herein cannot be changed except over the signature of the said Contract Officer.

The quantities shown in the itemized proposal for the project are considered to be approximate only and are given as the basis for comparison of bids. The Department of Transportation may increase or decrease the quantity of any item or portion of the work as may be deemed necessary or expedient.

An increase or decrease in the quantity of any item will not be regarded as sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work, except as provided for the contract.

Accompanying this bid is a bid bond secured by a corporate surety, or certified check payable to the order of the Department of Transportation, for five percent of the total bid price, which deposit is to be forfeited as liquidated damages in case this bid is accepted and the Bidder shall fail to provide the required payment and performance bonds with the Department of Transportation, under the condition of this proposal, within 14 calendar days after the written notice of award is received by him, as provided in the Standard Specifications; otherwise said deposit will be returned to the Bidder.



CONTRACT: C200856 (B-3348)
HYDE COUNTY

TABLE OF CONTENTS

COVER SHEET
PROPOSAL SHEETS
PROJECT SPECIAL PROVISIONS (GREEN SHEETS) PAGE NO.

Contract Time and Liquidated Damages..... 1
Construction Moratorium..... 1
Safety Index Rating..... 1
Major Contract Items..... 1 - 2
Specialty Items..... 2
Schedule of Estimated Completion Progress..... 2
Electronic Bidding..... 2 - 5
Disadvantaged Business Enterprise..... 5 - 14
Retainage and Prompt Payment..... 14 - 15
Certification for Federal-Aid Contracts..... 15 - 16
Contractor's License Requirements..... 16
Domestic Steel and Iron Products..... 16
U.S. Department of Transportation Hotline..... 17
Submission of Records - Federal-Aid Projects..... 17
Compensation and Record Keeping..... 17
Contractor Borrow Source..... 17 - 18
Subsurface Information..... 18
Pavements for Materials – Portable Concrete Barrier..... 18
Pavements for Materials-Removable Pavement Marking Material..... 19
Plant Pest Quarantines..... 19 – 20
Training Requirements..... 20
Safety Vests..... 20
Director of Construction in Lieu of Chief Engineer..... 20
Twelve Month Guarantee..... 20 – 21
Note to Contractor..... 21
Roadway..... 22 - 53
Utility Construction..... 54 - 62
Utility Conflicts..... 63
Erosion Control..... 64 - 75
Traffic Control..... 76 - 80
Signals and Traffic Management Systems..... 81 - 97
Project Special Provisions Structures..... 98 - 121
Permits **(WHITE SHEETS)**..... 122 - 195

STANDARD SPECIAL PROVISIONS (YELLOW SHEETS)

Availability of Funds..... 1
Seed Quality Requirements..... 2 - 4

Errata..... 5 - 6
Award of Contract..... 7
Minority and Female Employment Requirements..... 8 - 10
Required Contract Provs.-Federal-Aid Construction
Contracts Exclusive of Appalachian Contracts (FHWA-1273)..... 11 - 21
Training Special Provisions..... 22 - 25
Federal Wage Rates..... 26 - 29

PROPOSAL FORM ITEM SHEETS, ETC.

Item Sheets
Signature Sheet (Bid-Acceptance by Department)

PROJECT SPECIAL PROVISIONS

General 7-1-95

SP1G01

CONTRACT TIME AND LIQUIDATED DAMAGES: **07-20-99**

The date of availability for this contract is September 27, 2004, except that work in jurisdictional waters and wetlands shall not begin until a meeting between the DOT, Regulatory Agencies, and the Contractor is held as stipulated in the permits contained elsewhere in this proposal. This delay in availability has been considered in determining the contract time for this project.

The completion date for this contract is June 1, 2006.

When observation periods are required by the special provisions, they are not a part of the work to be completed by the completion date and/or intermediate contract times stated in the contract. Should an observation period extend beyond the final completion date, the acceptable completion of the observation period shall be a part of the work covered by the performance and payment bonds.

The liquidated damages for this contract are Eight Hundred Dollars ($800.00) per calendar day.

SP1G04

CONSTRUCTION MORATORIUM:

No in-water work will be allowed between March 1 and September 30 of any year.

SAFETY INDEX RATING: **6-18-02**

Revise the 2002 Standard Specifications as follows:

Page 1-10, Article 102-2

Before the last paragraph on this page, add the following paragraph:

"All subcontractors performing work for the Department shall have received a passing grade on the Safety Index Rating form, in accordance with Article 102-2, prior to beginning work. Subcontractors can request the Safety Index Rating form from the State Contractual Services Engineer."

SP1G14

MAJOR CONTRACT ITEMS: **2-19-02$_C$**

The following listed items are the major contract items for this contract (See Articles 101-54 and 104-5 of the Standard Specifications):

SP1G28

Line #	Description
105	Class "AA" Concrete (Bridge)
116	3'-0"x1'-9" Prestressed Concrete Cored Slabs

SPECIALTY ITEMS: **7-1-95**

Items listed below will be the specialty items for this contract (See Article 108-6 of the Standard Specifications).

Line #	Description
19 thru 27	Guardrail Items
28	Fencing Items
51	Pavement Markers
52 thru 63	Utility Construction Items
64 thru 86	Erosion Control Items
87 thru 99	Signal Items

SP1G37

SCHEDULE OF ESTIMATED COMPLETION PROGRESS: **07-20-04**

The Contractor's attention is directed to the Standard Special Provision entitled "Availability Of Funds Termination Of Contracts" included elsewhere in this proposal. The Department of Transportation's schedule of estimated completion progress for this project as required by that Standard Special Provision is as follows:

Fiscal Year	Progress (Dollar Value)
2005 (07/01/04 – 06/30/05)	59% of Total Amount Bid
2006 (07/01/05 – 06/30/06)	41% of Total Amount Bid

The Contractor shall also furnish his own progress schedule in accordance with Article 108-2 of the Standard Specifications. Any acceleration of the progress as shown by the Contractor's progress schedule over the progress as shown above shall be subject to the approval of the Engineer.

SP1G58

ELECTRONIC BIDDING: **03-16-04$_R$**

Page 1-2, Article 101-11

Delete this article and replace with the following:

Bid (Or Proposal): The electronic offer of a Bidder via Bid Express™ to the Department to perform the work and to furnish the labor and materials at the prices quoted.

Page 1-3, Article 101-20, **Contract**

Add after the second paragraph of this article.

All references to contracts shall include electronic agreements and printed paper agreements. These may include but not be limited to the electronic bid bond, non-collusion statement, debarment certification, and award limits.

Page 1-6, Article 101-64 **Proposal Form**

Delete this article and replace with the following:

Proposal or Proposal Form: The electronic or paper form provided by the Department that the Bidder uses to develop his electronic offer to perform the work at designated bid prices.

Page 1-14, **Article 102-9**

Delete Article 102-9 in its entirety and replace with the following:

102-9 ELECTRONIC BIDDING.

The Bidder shall submit bids electronically using the following guidelines:

1. The prequalified Bidder shall have a fully executed *Non-Collusion Affidavit and Debarment Certification* on file in the Contract Office prior to submitting his bid. If the Bidder cannot provide the debarment certification required, he shall provide an explanation as shown in the certification. The explanation will not necessarily result in denial of participation in a contract. Non-collusion and debarment certification forms shall be downloaded at http://www.NCDOT.org/business. Forms shall be executed in accordance with Section 102-8. The affidavit and certification shall be received in the Contract Office by 5 p.m. the last business day before the bid letting. The Contract Office address is shown at the end of this provision.

   If the prequalified Bidder's *status* changes, he shall immediately submit a new fully executed non-collusion affidavit and debarment certification with an explanation of the change.

   Failure to have a fully executed non-collusion affidavit and debarment certification on file in the Contract Office prior to placing bids will cause those bids to be non-responsive.

2. Obtain on-line bidding information from Bid Express™ at www.bidx.com (Note: Obtain an account and valid Digital Signature from Bid Express™ in order to bid electronically).

3. An electronic corporate surety bid bond for at least 5% of the total amount bid shall accompany each electronic bid, or the Contractor may submit a certified check or cashier's check in lieu of an electronic bid bond. The certified check or cashier's check shall be for at least 5% of the total amount bid and shall be received by 5 p.m. the last business day before the bid letting and shall be delivered to the address shown at the end of this provision.

Contact either or both of the following bond management companies in order to acquire the necessary service to submit an electronic bid bond.

a. Surety 2000 (www.surety2000.com)
b. Surepath (www.insurevision.com)

4. Debarment Certification – The Bidder shall provide a debarment certification in the electronic bid submittal. If a Bidder cannot provide the debarment certification required, he shall provide an explanation in the Bid Express ™ miscellaneous folder within the .ebs file. The explanation will not necessarily result in denial of participation in a contract. Failure to furnish a certification or an explanation will be grounds for rejection of a bid.

5. Zero (0) is considered a valid bid. Do Not enter zero (0) in any unit price field unless zero (0) is the intended bid for that item.

6. Include all addenda in the submitted electronic bid. Bid Express™ will not accept a bid which does not contain all addenda. Section 103-2 (Correction of Bid Errors) will not apply to On-Line Electronic Bidding. All addenda and attachments will be considered part of the bid.

7. The electronic bid may be changed and resubmitted as many times as desired prior to the advertised bid opening time specified in the Invitation to Bid. The latest time stamped electronically submitted bid prior to the advertised bid opening time will constitute the Bid.

8. The provisions of Section 102-8 will apply to the preparation of bids except that the bid shall be submitted via Bid Express™ On-Line Bid Submission.

9. All bids shall be submitted with an electronically affixed digital signature. For the purpose of this provision, affixing a digital ID to the bid shall be the equivalent of signing before a notary public and placing in force the non-collusion affidavit and debarment certification on file with the Department.

10. By submitting an electronic bid, the Bidder certifies that he has read, understands, accepts, acknowledges and agrees to comply with all statements, conditions and Specifications in the electronic bid submittal.

11. Bids will be decrypted, opened, printed to paper and read publicly at the time and place specified in the invitation to bid.

12. The successful Bidder if award be made shall submit a fully executed *Execution of Contract, Non-Collusion Affidavit and Debarment Certification* signature sheet, and payment and performance bonds within 14 calendar days of receipt of award letter.

13. The Department will not be responsible if a Bidder cannot submit his bid to Bid Express™ and claims will not be accepted for this. In the event of technical difficulties, the Department reserves the right to postpone the reading of bids for up to 4 hours past the advertised bid opening time.

14. The pre-bid *Non-Collusion Affidavit, Debarment Certification signature* sheet, *Execution of Contract, Non-Collusion Affidavit, Debarment Certification* signature sheet, certified check or cashier's check in lieu of electronic bid bond, payment and performance bonds shall be delivered to the Contract Office at the address shown herein:

Physical Address
State Contract Officer
Project Services Unit
Century Center Bldg. B
1020 Birch Ridge Drive
Raleigh, NC 27610

Mailing Address:
State Contract Officer
NC Department of Transportation
Contracts and Proposals
1591 Mail Service Center
Raleigh, NC 27699-1591

SP1G60

DISADVANTAGED BUSINESS ENTERPRISE **07-17-01$_R$**

POLICY

It is the policy of the North Carolina Department of Transportation that Disadvantaged Business Enterprises shall have the opportunity to participate in the performance of contracts financed in whole or in part by Federal Funds in order to create a level playing field.

The Contractor is also encouraged to give every opportunity to allow DBE participation in Supplemental Agreements.

OBLIGATION

The Contractor, subcontractor, and sub-recipient shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of federally assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the Department deems necessary.

GOALS

The following goal for participation by Disadvantaged Business Enterprise (DBE) is established for this contract:

Disadvantaged Business Enterprises 8%

The Contractor shall exercise all necessary and reasonable steps to ensure that Disadvantaged Business Enterprises participate in at least the percent of the contract as set forth above as goals for this contract.

LISTING OF DBE SUBCONTRACTORS

All bidders, at the time the bid proposal is submitted, must also submit a listing of DBE participation on the appropriate form (or facsimile thereof) contained elsewhere in this proposal in order for the bid to be considered responsive. Bidders must indicate the total dollar value of DBE participation for the contract. In the event the bidder has no DBE participation, he is still required to indicate this on the forms by entering the word or number zero. Blank forms will not be deemed to represent zero participation. BIDS SUBMITTED WHICH DO NOT HAVE DBE PARTICIPATION INDICATED ON THE APPROPRIATE FORM WILL NOT BE READ PUBLICLY DURING THE OPENING OF BIDS. The Department will not consider these bids for award and they will be returned to the bidder. Bidders have the option of submitting their DBE participation in an abbreviated format as required in Paragraph A below, or the bidder may submit their DBE participation in the additional detail required by Paragraph B below. In the event the bidder elects to submit DBE participation in accordance with Paragraph A and is determined to be the apparent lowest responsive bidder, that bidder must deliver to the Department no later than 12:00 noon of the sixth day following the opening of bids, a detailed DBE submittal as required by Paragraph B below.

Only those DBE firms with current certification by the Department will be considered acceptable for listing in the bidder submittal of DBE participation.

A. The Contractor shall indicate on the form for listing of DBE subcontractors contained elsewhere in this proposal the following required information:

REQUIRED INFORMATION

(1) The names and addresses of DBE firms committed to participate in the contract

(2) The Contract Item Numbers of work to be performed by each DBE firm; and

(3) The total dollar amount to be paid to each DBE based on agreed upon unit prices.

Failure to indicate the required information on the specified form will cause the bid to be considered nonresponsive and it may be rejected.

B. In lieu of submitting the information required by (A) above, the bidder may submit the detailed information that required below along with the bid proposal.

REQUIRED INFORMATION

(1) The names and addresses of DBE firms committed to participate in the contract

(2) The Contract Item Numbers and Contract Item Descriptions and agreed upon unit prices of work to be performed by each DBE firm; and

(3) The total dollar amount to be paid to each DBE based on agreed upon unit prices.

Failure to indicate the required information on the specified form will cause the bid to be considered nonresponsive and it may be rejected.

The bidder is required to submit written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet a contract goal and written confirmation from each DBE, listed in the proposal, indicating their participation in the contract.

The Department will not allow any substitutions, deletions, or other alterations to the listing of firms committed for DBE participation and/or the respective listed contract item numbers after opening of bids. The Department will not allow adjustments to total dollar amount of DBE participation after the opening of bids that would result in the DBE participation being less than the contract goal. The only exceptions to the requirements of this paragraph will be: (1) to allow for replacement of a DBE firm that had been decertified after opening of bids, and (2) to allow alteration of the listed contract item numbers subject to the Bidder submitting sufficient documentation to verify an obvious error in the initial submittal.

C. If the DBE participation submitted in the bid by the apparent lowest responsive bidder in response to Paragraph A/B does not meet or exceed the DBE contract goal, the apparent lowest responsive bidder must submit information to satisfy the North Carolina Department of Transportation that sufficient Good Faith efforts have been made to meet the contract goals. One complete set and nine (9) copies of this information must be received in the office of the State Contractual Services Engineer no later than 12:00 noon of the sixth day following opening of bids. Where the information submitted includes repetitious solicitation letters it will be acceptable to submit a sample representative letter along with a distribution list of the firms being solicited. Documentation of DBE quotations shall be a part of the good faith effort submittal as necessary to demonstrate compliance with the factors listed below which the Department considers in judging good faith efforts. This documentation may include written subcontractor quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

Where the bidder fails to provide this information by the deadline, the Department may impose one or more of the following sanctions: (1) disqualify the contractor and any affiliated companies from further bidding for a period of time of no more than 90 days from the date of disqualification as established in notification by certified mail, (2) disqualify the Contractor and any affiliated companies for award of all contracts for which bids have been received and opened, (3) disqualify the Contractor from the contract in question.

The following factors are what the Department will consider in judging whether or not the bidder has made adequate good faith effort:

(1) Whether the bidder attended any pre-bid meetings that were scheduled by the Department to inform DBEs of subcontracting opportunities.

(2) Whether the bidder provided solicitations through all reasonable and available means (e.g. advertising in newspapers owned and targeted to the Disadvantaged) at least 10 days prior to bid opening. Whether the bidder provided written notice to all DBEs listed in the NCDOT DBE directory, within the Divisions and surrounding Divisions where the project is located, that specialize in the areas of work (as noted in the DBE Directory) that the bidder will be subcontracting.

(3) Whether the bidder followed up initial solicitations of interests by contacting DBEs to determine with certainty whether they were interested. If a reasonable amount of DBEs within the targeted Divisions do not provide an intent to quote or no DBEs specialize in the subcontracted areas, the bidder must notify DBEs outside of the targeted Divisions that specialize in the subcontracted areas, as well as call the project Compliance Officer in the Office of Civil Rights to give notification of the bidder inability to get DBE quotes.

(4) Whether the bidder selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise perform these work items with its own forces.

(5) Whether the bidder provided interested DBEs with adequate and timely information about the plans, specifications and requirements of the contract

(6) Whether the bidder negotiated in good faith with interested DBEs not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.

(7) Whether quotations were received from interested DBE firms but rejected as unacceptable without sound reasons why the quotations were considered unacceptable. The fact that the DBE firms quotation for the work is not the lowest quotation received will not in itself be considered as a sound reason for rejecting the quotation as unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered as sound reason for rejecting a DBE quote. Nothing in this provision shall be construed to require the Contractor to accept unreasonable quotes in order to satisfy contract goals.

(8) Whether the bidder specifically negotiated with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be sublet includes potential for DBE participation.

(9) Whether the bidder made any efforts and/or offered assistance to interested DBEs in obtaining the necessary equipment, supplies, materials, insurance, and/or bonding to satisfy the work requirements in the bid proposal.

(10) Any other evidence that the bidder submits which show that the bidder has made reasonable Good Faith efforts to include DBE participation.

In the event one bidder is the apparent low bidder on more that one project within the same letting located in the same geographic area of the state, as a part of the good faith effort the Department will consider allowing the bidder to combine the DBE participation as long as the overall goal value of all projects is achieved.

Where the apparent lowest responsive bidder fails to submit sufficient participation by DBE firms to meet the contract goal and upon a determination by the Goal Compliance Committee based upon the information submitted that the apparent lowest responsive bidder failed to make sufficient reasonable efforts to meet the contract goal, the bidder will be offered the opportunity to meet in person for administrative reconsideration. A committee appointed by the Department will hear administrative reconsideration. Members of this committee will be officials who did not take part in the original determination by the Goal Compliance Committee. The bidder will have the opportunity to present written documentation or argument concerning the issue of whether it met the goal or made an adequate good faith effort. The bidder will receive a written decision on the reconsideration. Explaining the basis for finding that the bidder did or did not meet the goal or made adequate Good Faith efforts to do so. The result of the reconsideration process is not administratively appealable to the Department.

In the event that the Department does not award the contract to the apparent lowest responsive bidder, the Department reserves the right to award the contract to the next lowest responsive bidder that can satisfy the Department that the contract goal can be met or that adequate good faith efforts have been made to meet the goal.

DBE DIRECTORY

Included with this Proposal is a list of Disadvantaged Business Enterprises (DBE) which have been certified as such by the North Carolina Department of Transportation. Only those DBE firms with current certification may be listed in the proposal.

The listing of an individual firm in the Department's directory shall not be construed as an endorsement of the firms' capability to perform certain work.

REPLACEMENT OF DBEs

(A) Performance Related

If any DBE Subcontractor submitted on the form for listing of DBE Subcontractors, contained elsewhere in this proposal, is terminated or fails to complete its work on the contract for any reason, the Contractor shall take all necessary, reasonable steps to replace the DBE Subcontractor with another DBE Subcontractor to perform at least the same amount of work of the contract as the DBE that was terminated.

To demonstrate necessary, reasonable Good Faith efforts, the Contractor shall document the steps he has taken to replace any DBE Subcontractor who is unable to perform successfully with another DBE Subcontractor. Such documentation shall include but not be limited to the following:

(a) Copies of written notification to DBEs that their interest is solicited in subcontracting the work defaulted by the previous DBE subcontractor or in subcontracting other items of work in the contract.

(b) Efforts to negotiate with DBEs for specific subbids including, at a minimum:

(1) The names, addresses, and telephone numbers of DBEs who were contacted;

(2) A description of the information provided to DBEs regarding the plans and specifications for portions of the work to be performed; and

(c) For each DBE contacted but rejected as unqualified, the reasons for the Contractor' conclusion.

(d) Efforts made to assist the DBEs contacted, if needed, in obtaining bonding or insurance required by the Contractor.

The contractor will not terminate a DBE subcontractor listed in the proposal for convenience or perform the work with its own forces or those of an affiliate without the written approval of the Engineer. If the Contractor fails to demonstrate reasonable efforts to replace a DBE firm that does not perform as intended or completes the work with its own forces without the Engineer's approval, the Contractor will be disqualified from further bidding for a period of up to 6 months after notification by certified mail.

(B) Decertification

1. If a Prime Contractor has listed a DBE firm in his low bid submitted and that DBE Subcontractor is subsequently decertified by the Department after a Request for Subcontract has been approved, then the Department will not require the Prime Contractor to solicit replacement DBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal but may not be counted toward the overall program goal.

2. If a Prime Contractor has listed a DBE firm in his low bid submittal and the DBE firm is decertified prior to the Department approving a Request for Subcontract for the named DBE firm, the Prime Contractor shall take all necessary and reasonable steps to replace the DBE subcontractor with another DBE subcontractor to perform at least the same amount of work to meet the contract goal or demonstrate that it has made a Good Faith effort to do so.

DEFINITIONS

For purposes of this provision the following definitions will apply:

(1) Socially and economically disadvantaged individuals means a person who has a net worth of $750,000.00 or less and is a citizen or lawful permanent resident of the United States and who is:

(a) A Black American

(b) A Hispanic American

(c) A Subcontinent Asian American

(d) A Native American

(e) An Asian-Pacific American

(f) A Woman

(g) Members of other groups, or other individuals found to be economically and socially disadvantaged by the Small Business Administration under Section 8(d) of the Small Business Act, as amended (15 U.S.C. 637(d)).

(h) Members of other groups, or other individuals found to be economically and socially disadvantaged by the N. C. Department of Transportation under the Criteria for Disadvantaged Business Enterprises as published by the Department.

(2) Disadvantaged Business Enterprise (DBE) means a for-profit small business concern.

(a) That is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation in which 51 percent of the stock is owned by one or more such individuals; and

(b) Whose management and daily business operation are controlled by one or more of the socially and economically disadvantaged individuals who own it,

COUNTING DBE PARTICIPATION TOWARD MEETING THE DBE GOAL

(1) If a firm is determined to be an eligible DBE firm and certified by the Department, the total dollar value of the participation by the DBE will be counted toward the goal. The total dollar value of participation by a certified DBE will be based upon the value of work actually performed by the DBE and the actual payments to DBE firms by the contractor.

(2) When a DBE performs as a participant in a joint venture, the contractor may count toward its DBE goal a portion of the total value of participation with the DBE in the joint venture, that portion of the total dollar value being a distinct clearly defined portion of work that the DBE performs with its forces.

(3) (a) The Contractor may count toward its DBE goal only expenditures to DBEs that perform a commercially useful function in the work of a contract. A DBE is considered to perform a commercially useful function when it is responsible for execution of a distinct element of the work of a contract and carrying out its responsibilities by actually performing, managing, and supervising the work involved. To determine whether a DBE is performing a commercially useful function, the Department will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

(b) Consistent with normal industry practices, a DBE may enter into subcontracts. Work that a DBE subcontracts to another DBE firm may be counted toward the contract goal. Work that a DBE subcontracts to a non-DBE firm does not count toward the contract goal. If a DBE Contractor or Subcontractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of normal industry practices, the DBE shall be presumed not to be performing a commercially useful function. The Departments decision on the rebuttal of this presumption is subject to review by the Federal Highway Administration but is not administratively appealable to USDOT.

(c) The following factors will be used to determine if a DBE trucking firm is performing a commercially useful function.

(1) The DBE firm must be responsible for the management and supervision of entire trucking operation
(2) The DBE must itself own and operate at least one fully licensed, insured and operational truck
(3) The DBE will receive full credit for all trucks it owns, insures, operates, and employs drivers
(4) The DBE will receive full credit for all trucks leased from a certified DBE firm
(5) The DBE will only receive credit for the fees or commission for trucks leased from a non-DBE firm
(6) Others may use trucks during the term of the lease so long as the lease gives priority to the DBE for the use of the truck(s).

The DBE may present evidence to rebut this presumption to the Department for commercially useful functions.

(4) A Contractor may count toward its DBE goal 60 percent of its expenditures for materials and supplies required to complete the contract and obtained from DBE regular dealer and 100 percent of such expenditures to a DBE manufacturer.

(a) For purposes of this provision, a manufacturer is a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Contractor.

(b) For purposes of this provision, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public in the usual course of business. To be a regular dealer, the firm must engage in, as its principal business and in its own name, the purchase and sale of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone, and petroleum products need not keep such products in stock, if it owns or operates distribution equipment. Brokers and packagers shall not be regarded as manufacturers or regular dealers within the meaning of this section.

(5) A contractor may count toward its DBE goal the following expenditures to DBE firms that are not manufacturers or regular dealers:

(a) The fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, toward DBE goal, provided the fees or commissions are determined to be reasonable and not excessive as compared with fees and commissions customarily allowed for similar services.

(b) The fees or commissions charged for assistance in the procurement of the materials and supplies, or for transportation charges for the delivery of materials or supplies required on a job site (but not the cost of the materials and supplies themselves), toward DBE goals, provided the fees are not from a manufacturer or regular dealer and provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar services.

REPORTS

All requests for subcontracts involving DBE subcontractors shall be accompanied by a certification executed by both the Prime Contractor and the DBE subcontractor attesting to the agreed upon unit prices and extensions for the affected contract items. This document shall be on the Department's Form RS-1-D, or in lieu of using the Department's Form, copies of the actual executed agreement between the Prime Contractor and the DBE subcontractor may be submitted. In any event, the Department reserves the right to require copies of actual subcontract agreements involving DBE Subcontractors.

The RS-1-D certification forms may be obtained from the Department's Resident Engineer.

These certifications shall be considered a part of the project records, and consequently will be subject to penalties under Federal Law associated with falsifications of records related to projects.

REPORTING DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION

When payments are made to Disadvantaged Business Enterprise firms, including material suppliers, contractors at all levels (prime, subcontractor, or second tier subcontractor) shall provide the Engineer with an accounting of said payments. This accounting shall be furnished the Engineer for any given month by the end of the following month. Failure to submit this information accordingly may result in (1) withholding of money due in the next partial pay estimate; or (2) removal of an approved Contractor from the prequalified bidders list or the removal of other entities from the approved subcontractors list. The accounting shall list for each payment made to a Disadvantaged Business Enterprise firm the following:

DOT Project Number
Payee Contractor Name
Receiving Contractor or Material Supplier
DBE Certification Basis, e.g., Woman Owned, Native American, African American, etc.
Amount of Payment
Date of Payment

A responsible fiscal officer of the payee contractor, subcontractor, or second tier subcontractor who can attest to the date and amounts of the payments shall certify that the accounting is correct. A copy of an acceptable report may be obtained from the Engineer.

SP1G61

RETAINAGE AND PROMPT PAYMENT: **1-01-02**

Retainage:

The Department will not deduct and hold any retainage from the Prime Contractor on this project.

The 2002 Standard Specifications shall be revised as follows:

Sub-Article 109-4(A), pages 1-69 and 1-70

Delete the second, third, fourth, and fifth paragraphs of this subarticle.

Insert the following:

"The Department will withhold an amount sufficient to cover anticipated liquidated damages, as determined by the Engineer."

Prompt Payment of Monies Due Subcontractors, Second Tier Subcontractors and Material Suppliers and Release of Retainage

Contractors at all levels; prime, subcontractor, or second tier contractor, shall within seven calendar days of receipt of monies, resulting from work performed on the project or services rendered, pay subcontractors, second tier subcontractors, or material suppliers, as appropriate.

This seven-day period begins upon knowledgeable receipt by the contracting firm obligated to make a subsequent periodic or final payment. These prompt payment requirements will be met if each firm mails the payment to the next level firm by evidence of postmark within the seven-day period.

This provision for prompt payment shall be incorporated into each subcontract or second tier subcontract issued for work performed on the project or for services provided.

The Contractor may withhold up to 3% retainage if any subcontractor does not obtain a payment and performance bond for their portion of the work. If any retainage is held on subcontractors, all retainage shall be released within seven calendar days of satisfactory completion of all work. For the purpose of release of retainage, satisfactory completion is defined as completion of all physical elements and corresponding documentation as defined in the contract, as well as agreement between the parties as to the final quantities for all work performed in the subcontract. The Department will provide internal controls to expedite the determination and processing of the final quantities for the satisfactorily completed subcontract portions of the project.

Failure of any entity to make prompt payment as defined herein may result in (1) withholding of money due to that entity in the next partial payment until such assurances are made satisfactory to this provision; or (2) removal of an approved contractor from the prequalified bidders list or the removal of other entities from the approved subcontractors list.

SP1G73

CERTIFICATION FOR FEDERAL-AID CONTRACTS: **03-21-90**

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who

fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly. SP1G85

CONTRACTOR'S LICENSE REQUIREMENTS: **7-1-95**

If the successful bidder does not hold the proper license to perform any plumbing, heating, air conditioning, or electrical work in this contract, he will be required to sublet such work to a contractor properly licensed in accordance with Article 2 of Chapter 87 of the General Statutes (licensing of heating, plumbing, and air conditioning contractors) and Article 4 of Chapter 87 of the General Statutes (licensing of electrical contractors).

SP1G88

DOMESTIC STEEL AND IRON PRODUCTS: **7-1-95**

All steel and iron products which are permanently incorporated into this project shall be produced in the United States except minimal amounts of foreign steel and iron products may be used provided the combined project cost of the bid items involved does not exceed one-tenth of one percent (0.1 percent) of the total amount bid for the entire project or $2,500.00, whichever is greater. This minimal amount of foreign produced steel and iron products permitted for use by this Special Provision is not applicable to fasteners. Domestically produced fasteners are required for this project.

All steel and iron products furnished as "domestic products" shall be melted, cast, formed, shaped, drawn, extruded, forged, fabricated, produced, or otherwise processed and manufactured in the United States. Raw materials including pig iron and processed pelletized and reduced iron ore used in manufacturing "domestic" steel products may be imported; however, all manufacturing processes to produce the products, including coatings, must occur in the United States.

Before each steel or iron product is incorporated into this project or included for partial payment on a monthly estimate, the Contractor shall furnish the Resident Engineer a notarized certification certifying that the product conforms to the above requirements of this Special Provision. The Resident Engineer will forward a copy of each certification to the Materials and Tests Unit.

Each purchase order issued by the Contractor or a subcontractor for steel and iron products to be permanently incorporated into this project shall contain in bold print a statement advising the supplier that all manufacturing processes to produce the steel or iron shall have occurred in the United States. The Contractor and all affected subcontractors shall maintain a separate file for steel products permanently incorporated into this project so that verification of the Contractor's efforts to purchase "domestic" steel and iron products can readily be verified by an authorized representative of the Department or the Federal Highway Administration.

SP1G97

U.S. DEPARTMENT OF TRANSPORTATION HOTLINE: **11-22-94**

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

SP1G100

SUBMISSION OF RECORDS - FEDERAL-AID PROJECTS: **12-15-98**

The Contractor's attention is directed to the Standard Special Provisions entitled "Required Contract provisions - Federal-Aid Construction Contracts" contained elsewhere in this proposal.

This project is NOT located on the National Highway System, therefore, federal form FHWA-47 IS NOT required.

SP1G109

COMPENSATION AND RECORD KEEPING **03-16-04**

Revise the *2002 Standard Specifications* as follows:

104-8 Compensation and Record Keeping

Change Article (A), subarticle 1. with the following:

In line 3 and line 6, change $15,000.00 to $25, 000.00.

SP1G110

CONTRACTOR BORROW SOURCE **07-20-04**

Revise the *2002 Standard Specifications* as follows:

Page 2-17, Article 230-4(C) Contractor Furnished Sources, add the following;

If the Contractor proposes a borrow source, the environmental assessment shall include wetland and stream delineation extending 400 feet beyond the proposed borrow source limits.

1. If wetlands or streams are present within 400 feet of the borrow source and the contractor proposes to dewater:

   a. Submit a hydrologic analysis (DRAINMOD or equivalent) to determine if excavation, pump frequency/duration/volume will permanently impact or cause degradation to wetlands or streams. The analysis shall consist of, but not be limited to:

      Required buffer width to avoid long term impacts to wetlands or stream

      Return interval to pre-existing hydrologic conditions after pit excavation and dewatering is completed.

   b. Attach a conservation easement specifying that the completed pit impoundment, upon returning to mean water table elevation, shall not be drained, ditched, used for irrigation, or any other manner that would degrade wetlands and streams.

   c. Provide copy of recorded conservation easement to Engineer prior to commencement of any work on proposed pit.

2. If wetlands or streams are not present within 400 feet, no additional documentation will be required.

During Department review of the proposed borrow area, the hydrologic analysis will be submitted to the U. S. Army Corps of Engineers for evaluation.

SP1G111

SUBSURFACE INFORMATION: **7-1-95**

Subsurface information is available on the roadway and structure portions of this project.

SP1G119

PAYMENTS FOR MATERIALS - PORTABLE CONCRETE BARRIER: **7-1-95**

When so authorized by the Engineer, partial materials payments will be made up to 90 percent of the delivered cost of portable concrete barrier, provided that these materials have been delivered on the project and stored in an acceptable manner, and further provided the documents listed in Subarticle 109-5(C) of the Standard Specifications have been furnished to the Engineer.

The provisions of Subarticle 109-5(B) of the Standard Specifications will apply to the portable concrete barrier.

SP1G121

PAYMENTS FOR MATERIALS - REMOVABLE PAVEMENT MARKING MATERIAL: **07-01-95**

When so authorized by the Engineer, partial materials payments will be made up to 90 percent of the delivered cost of pavement marking tape, provided that these materials have been delivered on or in the vicinity of the project, stored in an acceptable manner, not to exceed the shelf life recommended by the manufacturer, and further provided the documents listed in Subarticle 109-5(C) of the Standard Specifications have been furnished to the Engineer.

The Contractor shall be responsible for the material and the satisfactory performance of the material when used in the work.

The provisions of Article 109-6 of the Standard Specifications will not apply to removable pavement marking materials.

SP1G124

PLANT AND PEST QUARANTINES: **03-18-03**
(IMPORTED FIRE ANT, GYPSY MOTH, WITCHWEED, AND OTHER NOXIOUS WEEDS)

Within quarantined area:
This project may be within a county regulated for plant and/or pests. If the project or any part of the Contractor's operations is located within a quarantined area, thoroughly clean all equipment prior to moving out of the quarantined area. Comply with federal/state regulations by obtaining a certificate or limited permit for any regulated article moving from the quarantined area.

Originating in a quarantined county:
Obtain a certificate or limited permit issued by the N.C. Department of Agriculture/United States Department of Agriculture. Have the certificate or limited permit accompany the article when it arrives at the project site.

Contact:
Contact the N.C. Department of Agriculture/United States Department of Agriculture at 1-800-206-9333, 919-733-6932, or http://www.ncagr.com/plantind/ to determine those specific project sites located in the quarantined area or for any regulated article used on this project originating in a quarantined county.

Regulated Articles Include:
1. Soil, sand, gravel, compost, peat, humus, muck, and decomposed manure, separately or with other articles. This includes movement of articles listed above that may be associated with cut/waste, ditch pulling, and shoulder cutting.
2. Plants with roots including grass sod.
3. Plant crowns and roots.
4. Bulbs, corms, rhizomes, and tubers of ornamental plants.
5. Hay, straw, fodder, and plant litter of any kind.
6. Clearing and grubbing debris.
7. Used agricultural cultivating and harvesting equipment.
8. Used earth-moving equipment.

9. Any other products, articles, or means of conveyance, of any character, if determined by an inspector to present a hazard of spreading imported fire ant, gypsy moth, witchweed or other noxious weeds.

SP1G130

TRAINING REQUIREMENTS: **7-1-95**

The Contractor's attention is directed to the Standard Special Provision "Training Special Provision" included elsewhere in this proposal.

The number of trainees to be trained on this project shall be 1.

SP1G136

SAFETY VESTS: **6-19-01**

All Contractors' personnel, all subcontractors and their personnel, and any material suppliers and their personnel must wear an OSHA approved reflective vest or outer garment at all times while on the project.

SP1G139

DIRECTOR OF CONSTRUCTION IN LIEU OF CHIEF ENGINEER **03-16-04**

Revise the 2002 Standard Specifications as follows:

Wherever the term *Chief Engineer* or *Chief Engineer of Operations* occurs in the Specifications, the actions and responsibilities referred to will be performed by the Director of Construction, Division of Highways, North Carolina Department of Transportation, acting directly or through his duly authorized representative.

Revision to Definitions of Terms

Page 1-4, Article 101-35

101-35 ENGINEER

The Chief Engineer of Operations, and/or Director of Construction, Division of Highways, North Carolina, Department of Transportation, acting directly or through their duly authorized representative.

SP1G143

TWELVE MONTH GUARANTEE: **07-15-03**

A. The Contractor shall guarantee materials and workmanship against latent and patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve months following the date of final acceptance of the work for maintenance and shall replace such defective materials and workmanship without cost to the Department. The Contractor will not be responsible for damage due to faulty design, normal wear and tear, for negligence on the part of the Department, and/or for use in excess of the design.

B. Where items of equipment or material carry a manufacturer's guarantee for any period in excess of twelve months, then the manufacturer's guarantee shall apply for that particular piece of equipment or material. The Department's first remedy shall be through the manufacturer although the Contractor is responsible for invoking the warranted repair work with the manufacturer. The Contractor's responsibility shall be limited to the term of the manufacturer's guarantee. NCDOT would be afforded the same warranty as provided by the Manufacturer.

This guarantee provision shall be invoked only for major components of work in which the Contractor would be wholly responsible for under the terms of the contract. Examples would include pavement structures, bridge components, and sign structures. This provision shall not be used as a mechanism to force the Contractor to return to the project to make repairs or perform additional work that the Department would normally compensate the Contractor for. In addition, routine maintenance activities (i.e. mowing grass, debris removal, ruts in earth shoulders,) are not parts of this guarantee.

Appropriate provisions of the payment and/or performance bonds shall cover this guarantee for the project.

To ensure uniform application statewide the Division Engineer will forward details regarding the circumstances surrounding any proposed guarantee repairs to the Chief Engineer for review and approval prior to the work being performed.

SP1G145

NOTE TO CONTRACTOR:

"Undercut using dragline or other approved methods to prevent disturbance of the underlying soils. Do not operate equipment directly on the base of the box cut."

PROJECT SPECIAL PROVISIONS

Roadway 7-1-95

SP1R01

CLEARING AND GRUBBING: 9-17-02

Perform clearing on this project to the limits established by Method "III" shown on Standard No. 200.02 of the Roadway Standards.

The 2002 Standard Specifications shall be revised as follows:

Page 2-3, Article 200-5

Delete the first sentence of this article and insert the following:

The property owner will have no right to use or reserve for his use any timber on the project. All timber cut during the clearing operations is to become the property of the Contractor, and shall be either removed from the project by him, or else shall be satisfactorily disposed of as hereinafter provided.

SP2R01

BORROW EXCAVATION: 2-19-02

Revise the 2002 Standard Specifications as follows:

Page 2-20, Article 230-6

After the first paragraph, insert the following paragraph:

"No direct payment will be made for the work of Evaluation of Potential Wetlands and Endangered Species as outlined above. Payment at the contract unit price for the pay item 'Borrow Excavation' or 'Grading - Lump Sum' will be considered full compensation for this work.'

SP2R37

SHOULDER AND FILL SLOPE MATERIAL(LUMP SUM GRADING) 5-21-02

General:

Perform the required shoulder and slope construction for this project in accordance with the applicable requirements of Section 226 of the Standard Specifications except as follows:

Construct the top 6 inches (150 mm) of shoulder and fill slopes with soils capable of supporting vegetation.

Provide soil with a P.I. greater than 6 and less than 25 and with a pH ranging from 5.5 to 6.8. Remove stones and other foreign material 2 inches (50 mm) or larger in diameter. All soil is subject to test and acceptance or rejection by the Engineer.

Obtain material from within the project limits or approved borrow source.

Compensation:

No direct payment will be made for this work, as the cost of this work will be considered to be a part of the work being paid for at the contract lump sum price for "Grading".

SP2R45

RESTRICTIONS ON CONSTRUCTION OF EMBANKMENT: **02-17-04**

The Contractor shall construct the embankments to the finished graded roadway section for a minimum distance of 100 feet (30.48 meters) from the listed end bents, and shall not begin any work on the bridge end bents as listed below until the prescribed waiting periods have elapsed, or until notified by the Engineer that the settlement rate has stabilized and work on the end bents may proceed.

Bridge Description and Affected Bent	Waiting Period
Bridge No. 54 on US 264 over Kitty Creek	One (1) Month both End Bents

The Contractor will be required to maintain the embankments at finished graded roadway section during the waiting period. Additional earth material required to maintain embankment of finished graded roadway section will be included in the Lump Sum price for "Grading".

SP2R65

ROCK EMBANKMENT:

Construct the rock embankment in accordance with Section 235 of the 2002 Standard Specifications, the details shown on the plans, this provision, and as directed by the Engineer.

The rock embankment will be required: to the left of -Y- at stations 10+70.00 ± to 11+30.00 ±; to the left of -L- at stations 29+25.00 ± to 31+25.00 ±, and at other locations as directed by the Engineer. Construct the rock embankment to the design elevation before roadway embankment fills at -Y- or -L- can lie constructed. See roadway plans and cross sections for rock embankment placement details.

Density requirements will not apply to the rock embankment construction, but compact to the satisfaction of the Engineer.

Unless otherwise directed by the Engineer, construct the rock embankment with the slopes as indicated on the plan detail. Grade the rock so that the smaller pieces are uniformly distributed throughout the mass. The surface must be free of obstructions, debris, and segregated pockets of small pieces or groups of large pieces, which could cause large open voids within the rock mass.

Use Class II Rip Rap to construct the rock embankment. Place and compact a one (1) foot thick layer of Select Material, Class VI (#57 Stone) on top of the rock embankment. Compact #57 stone backfill with at least four passes of a 8.0 - 10.0 ton (or heavier) vibratory roller in the vibratory mode, or as directed by the Engineer. Place filter fabric on top of the Select Material, Class VI before placing the embankment fill material.

Grade the surfaces that receive filter fabric to lines and grades shown on the plans, unless otherwise directed by the Engineer. The surface must be free of obstructions, debris, and large voids within the #57 stone.

At the time of installation, the fabric will be rejected if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation or storage.

Lay the fabric smooth and free from tension, stress, folds, wrinkles, or creases. Where a layer of fabric becomes discontinuous, such as at the end of a roll, a minimum overlap of 300 mm is required with the upper fabric placed over the lower fabric. Overlap the previous fabric layer by a minimum of one (1) foot. Use wire staples as needed to hold the fabric in place until it is covered with fill material. Do not operate on the fabric until it is covered with a minimum six (6) inches of embankment fill. In the event fabric is displaced or damaged, reposition or replace the fabric at no additional cost to the Department.

MATERIALS:

Select Material, Class VI

The one (1) foot of the material on top of the rock embankment must be select Material, Class VI meeting the requirements of Section 1016 of the 2002 Standard Specifications.

Rock Embankment

The rock embankment must be Class II Rip Rap meeting the requirements of Section 1016 of the 2002 Standard Specifications.

Filter Fabric

For filter fabric use Type 2 Engineering Fabric meeting the requirements of Section 1056 of the 2002 Standard Specifications. Furnish a Type I Certified Mill Test Report, Type 2 Certified Mill Test Report, or Type 4 Certified Mill Test Report for the fabric in accordance with Article 106-3; however, the material will be subject to inspection, test, or rejection by the Engineer at any time.

METHOD OF MEASUREMENT:

Select Material, Class VI

The quantity of Select Material, Class VI to be paid for will be the actual number of tons, which has been incorporated into the completed and accepted work. The material will be measured by weighing in trucks on certified platform scales or other certified weighing devices or by methods approved by the Engineer.

Class II Rip Rap

The quantity of Class II Rip Rap to be paid for will be the actual number of tons, which has been incorporated into the completed and accepted work. The material will be measured by weighing in trucks on certified platform scales or other certified weighing devices or by methods approved by the Engineer.

Filter Fabric

The quantity of filter fabric to be paid for will be the area in square yards., measured along the surface of the ground, over which the fabric has been acceptably placed. No separate measurement for payment will be made for the overlapping of fabric.

BASIS OF PAYMENT:

Select Material, Class VI

The quantity of select material will be paid for at the contract unit price per ton for "Select Material, Class VI." Payment will be full compensation for all work and materials covered by this provision, including but not limited to furnishing, hauling, handling, placing, compacting, and maintaining the select material.

Class II Rip Rap

The quantity of select material will be paid for at the contract unit price per ton for "Class II Rip Rap." Payment will be full compensation for all work and materials covered by this provision, including but not limited to furnishing, hauling, handling, placing, compacting and maintaining the select material.

Filter Fabric

The quantity of filter fabric will be paid for at the contract unit price per square yard of "Filter Fabric for Drainage." Payment will be full compensation for all work covered by this provision, including but not limited to testing, furnishing, hauling, placing, and overlapping the filter fabric.

PAY ITEM:

Select Material, Class VI ..... Tons
Class II Rip Rap ..... Tons
Filter Fabric for Drainage ..... Square Yards

REINFORCED BRIDGE APPROACH FILLS: **03-18-03**

Description:

This work consists of all work necessary to construct reinforced bridge approach fills in accordance with these provisions and the plans, and as directed by the Engineer.

Materials:

Geomembrane

Provide geomembrane that is impermeable, composed of polyethylene polymers or polyvinyl chloride, and meets the following physical requirements:

Property	Requirements	Test Method
Thickness	25 mils (0.6 mm) Minimum	ASTM D1593
Tensile Strength at Break	100 lb/inch (18 KN/M) Minimum	ASTM D638
Puncture Strength	40 lbs (0.2KN) Minimum	FTMS 101 C 2065
Moisture Vapor Transmission Rate	0.018 ounce/yard^2 (0.615 gm/ m^2) per Day Maximum	ASTM E96

Fabric

Refer to section 1056 for Type 2 Engineering Fabric and the following:

Use a woven fabric consisting of strong rot-proof synthetic fibers such as polypropylene, polyethylene, or polyester formed into a stable network such that the filaments or yarns retain their relative positions to each other.

Fabric Property	Requirements	Test Method
Minimum Flow Rate	2 gallons/min/square foot ($1358\ cm^3$/sec/square meter)	ASTM D 4491

Lamination of fabric sheets to produce the physical requirements of a fabric layer will not be accepted. Furnish letters of certification from the manufacturer with each shipment of the fabric and geomembrane attesting that the material meets the requirements of this provision; however, the material is subject to inspection, test, or rejection by the Engineer at any time.

During all periods of shipment and storage, wrap the geomembrane and fabric in a heavy-duty protective covering to protect the material from ultraviolet rays. After the protective wrapping has been removed, do not leave the material uncovered under any circumstances for longer than 4 days.

Select Material

Provide select material meeting the requirements of Class III, Type 1 or Type 2, or Class V select material of section 1016 of the Standard Specifications. When select material is required under water, use select material class V only, up to one foot (300mm) above the existing water elevation.

4" (100mm) Diameter Corrugated Drainage Pipe and Fittings

Provide pipe and fittings that meet all the applicable requirements of Section 815 or 816 of the Standard Specifications.

Construction:

Place the geomembrane and fabric as shown on the plans or as directed by the Engineer. Perform the excavation for the fabric reinforced fill to the limits shown on the plans. Provide an excavated surface free of obstructions, debris, pockets, stumps, and cleared of all vegetation. The geomembrane or fabric will be rejected if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transportation, handling or storage. Lay all layers smooth, and free from tension, stress, folds, wrinkles or creases. Place all the fabric layers with the machine direction (roll direction) perpendicular to the backwall face. Overlap geomembrane or fabric splices perpendicular to the backwall face a minimum of 18 inches (450 mm). Geomembrane or fabric splices parallel to the backwall face will not be allowed.

Deposit and spread select material in successive, uniform, approximately horizontal layers of not more than 10 inches (250 mm) in depth, loose measurement, for the full width of the cross section, and keep each layer approximately level. Place and compact each layer of select material fill no more than 10 inches (250 mm) thick with low ground pressure equipment. Use hand operated equipment to compact the fill material within three feet (0.9 m) of the backwall and wingwalls as directed by the Engineer. Compact select material to a density equal to at least 95% of that obtained by compacting a sample of the material in accordance with AASHTO T99 as modified by the Department. Compact the top eight inches (200 mm) of select material to a density to at least 100% of that obtained by compacting a sample of the material in accordance

with AASHTO T99 as modified by the Department. Density requirements are not applicable to select material, class V; however compact the fill with at least four passes of low ground pressure equipment on the entire surface as directed by the Engineer. The compaction of each layer of select material must be inspected and approved by the Department prior to the placement of the next fill layer. No equipment will be allowed to operate on the drainage pipe or any geomembrane/fabric layer until it is covered with at least six inches (150 mm) of fill material. Compaction must not damage the drainage pipe, geomembrane, or fabric under the fill. Cover the geomembrane/fabric with a layer of fill material within four days after placement of the geomembrane/fabric. Geomembrane and fabric that is damaged as a result of installation will be replaced as directed by the Department at no additional cost.

Place the geomembrane on the ground, and attach and secure it tightly to the vertical face of the backwall and wingwalls with adhesives, duct-tape, nails or any other method approved by the Engineer. Place the first fabric layer on the surface of the geomembrane with the same dimensions of the geomembrane. No material or void is allowed between the geomembrane and the first fabric layer. Place and fold the remaining fabric layers on the edges as shown on the plans or as directed by the Engineer. Provide vertical separation between fabric layers as specified on the plans. The number of fabric layers will be shown in the plans.

Place four inch (100 mm) diameter perforated drainage pipe along the base of the backwall and sloped to drain as shown on the plans. Completely wrap perforated drainage pipe and #78M stone with Type 2 Engineering Fabric as shown on the plan detail. Install a pipe sleeve through the bottom of or under the wing wall prior to placing concrete for the wing wall. The pipe sleeve must be of adequate strength to withstand the wingwall load. Place the pipe sleeve in position to allow the drainage pipe to go through the wing wall with a proper slope. Connect four-inch (100-mm) diameter nonperforated (plain) drainage pipe with a coupling to the perforated pipe near the inside face of the wingwall. Place the nonperforated drainage pipe through the pipe sleeve, extend down to the toe of the slope and connect, to a ditch or other drainage systems as directed by the Engineer. For bridge approaches in cut sections where no side slope is available, direct the drainage pipe outlet to the end slope down to the toe using elbows as directed by the Engineer.

Measurement and Payment:

Compensation:

All work covered by this provision will be paid for at the contract lump sum price for "Reinforced Bridge Approach Fills, Station _____". Such price and payment will be full compensation for both approach fills at each bridge installation, including but not limited to furnishing, placing and compacting select material, furnishing and placing geomembrane and woven fabric, furnishing and placing pipe sleeve, drainage pipe, and stone, furnishing and installing concrete pads at the end of outlet pipes, excavation and any other items necessary to complete the work.

Payment will be made under:

Reinforced Bridge Approach Fills, Station _____	Lump Sum

SP4R01

ASPHALT PAVEMENTS - SUPERPAVE **02-17-04**

Revise the 2002 Standard Specifications as follows:

PRIME COAT

Page 6-2, Article 600-9

Delete the first paragraph under this Article and substitute the following:

The quantity of prime coat to be paid will be the number of gallons (liters) of prime coat material that has been satisfactorily placed on the roadway. Each distributor load of prime coat material delivered and utilized on the project will be measured.

ASPHALT TACK COAT

Page 6-4, Article 605-8

Insert the following after paragraph one in this Article:

Take necessary precautions to limit the tracking and/or accumulation of tack coat material on either existing or newly constructed pavements. Excessive accumulation of tack may require corrective measures.

FIELD VERIFICATION AND JOB MIX FORMULA ADJUSTMENTS

Page 6-7, Article 609-4

Delete the first paragraph under this Article and substitute the following:

Conduct field verification of the mix at each plant within 30 calendar days prior to initial production of each mix design, when required by the Allowable Mix Adjustment Policy and when directed as deemed necessary.

Page 6-8, Article 609-4

Delete the first paragraph on this page and substitute the following:

Retain records of these calibrations and mix verification tests, including Superpave Gyratory Compactor (SGC) printouts, at the QC laboratory. In addition, furnish copies, including SGC printouts, to the Engineer for review and approval within one working day after beginning production of the mix.

Page 6-8, Article 609-4

Add the following sentence to the end of the last paragraph in this Article:

Any mix produced that is not verified may be assessed a price reduction at the Engineer's discretion in addition to any reduction in pay due to mix and/or density deficiencies.

Quality control minimum sampling and testing schedule:

Page 6-9, Subarticle 609-5(C)1

Delete the second sentence in the second paragraph of this Article and substitute the following:

Retain the QC compacted volumetric test specimens for 5 calendar days, commencing the day the specimens are prepared.

Page 6-9, Subarticle 609-5(C)2

At the bottom of this page, delete the sentence directly above the Accumulative Production Increment and substitute the following:

Sample and test the completed mixture from each mix design at the following minimum frequency during mix production:

Page 6-10, Subarticle 609-5(C)2

Revise Items B, C, D and E on this page as follows:

B. Gradation on Recovered Blended Aggregate from Mix Sample (AASHTO T 30 Modified) Grade on all sieves specified on JMF
C. Maximum Specific Gravity (AASHTO T 209 or ASTM D 2041), optional (ASTM D 6857)
D. Bulk Specific Gravity of Compacted Specimens (AASHTO T166), optional (ASTM D 6752), Average of 3 specimens at N_{des} gyrations (AASHTO T 312)
E. Air Voids (VTM) (AASHTO T 269), Average of 3 specimens at N_{des} gyrations

Page 6-11, Subarticle 609-5(C)2

At the top of this page, delete Item B.," Reclaimed Asphalt Pavement..." and substitute the following:

B. Reclaimed Asphalt Pavement (RAP) Binder Content and Gradation (AASHTO T 308 Modified or T 164 and AASHTO T 30 Modified) (sampled from stockpiles or cold feed system at beginning of production and weekly thereafter). Have RAP approved for use in accordance with Article 1012-1(G). (Split Sample Required)

Page 6-11, Subarticle 609-5(C)2

Insert the following sampling and testing at the end of this Subarticle

F. Uncompacted Void Content of Fine Aggregate, AASHTO T 304, Method A (natural sand only). Performed at Mix Design and when directed as deemed necessary. (Split Sample Required)
G. Reclaimed Asphalt Shingle Material (RAS) Binder Content and Gradation (AASHTO T 308 Modified or T 164 and AASHTO T 30 Modified) (sampled from stockpiles or cold feed system at beginning of production and weekly thereafter). Have RAS approved for use in accordance with Article 1012-1(F). (Split Sample Required)

CONTROL CHARTS

Page 6-11, Subarticle 609-5(C)3

Delete the second sentence of the first paragraph in this Subarticle and substitute the following:

Record all regularly scheduled random sample or directed sample full test series results for mix incorporated into the project on control charts the same day the test results are obtained.

Page 6-12, Subarticle 609-5(C)3

Delete item 3 in the list below the second full paragraph on this page.

CONTROL LIMITS

Page 6-12, Subarticle 609-5(C) 4

At the bottom of this page, delete the table and substitute the following:

CONTROL LIMITS

Mix Control Criteria	Target Source	Warning Limit	Moving Average Limit	Individual Limit
2.36mm Sieve	JMF	±4.0 %	±5.0 %	±8.0 %
0.075mm Sieve	JMF	±1.5 %	±2.0 %	±2.5 %
Binder Content	JMF	±0.3 %	±0.5 %	±0.7 %
VTM @ N_{des}	JMF	±1.0 %	±1.5 %	±2.0 %
VMA @ N_{des}	Min. Spec. Limit	-0.5%	-0.8%	-1.0%
$P_{0.075}$/ P_{be} Ratio	Max. Spec. Limit	0.0	N/A	+0.4%
$\%G_{mm}$ @ N_{ini}	Max. Spec. Limit	N/A	N/A	+2.0%
TSR	Min. Spec. Limit	N/A	N/A	-15.0%

FIELD COMPACTION QUALITY CONTROL

Page 6-15, Subarticle 609-5(D)1

Delete the first and second sentences in the fourth paragraph on this page and substitute the following:

Base and intermediate mix types (surface mixes not included) utilized for pavement widening of less than 4.0 feet and all mix types used in tapers, irregular areas and intersections (excluding full width travel lanes of uniform thickness), will not be subject to the sampling and testing frequency specified above provided the pavement is compacted using approved equipment and procedures. However, the Engineer may require occasional density sampling and testing to evaluate the compaction process.

Page 6-16, Subarticle 609-5(D)1

Delete item number 2 at the top of this page. Item number 3 should be re-numbered as 2 after the specified deletion.

LIMITED PRODUCTION PROCEDURE

Page 6-17, Subarticle 609-5(D) 5

Delete the first paragraph in this Subarticle and substitute the following:

Proceed on limited production when, for the same mix type, one of the following items occur:

(1) Two consecutive failing lots, excluding lots representing an individual resurfacing map or portion thereof.
(2) Three consecutive failing lots, with each lot representing an individual resurfacing map or portion thereof.
(3) Two consecutive failing nuclear control strips.

Pavement within each construction category (New and Other), as defined in Article 610-13, and pavement placed simultaneously by multiple paving crews will be evaluated independently for limited production purposes.

Delete the first sentence in the last paragraph in this Subarticle and substitute the following:

If the Contractor does not operate by the limited production procedures as specified above, the two consecutive failing density lots, three consecutive failing lots with each lot representing an individual resurfacing map or portion thereof, or two consecutive failing nuclear control strips, whichever is applicable, and all mix produced thereafter will be considered unacceptable.

DOCUMENTATION (RECORDS)

Page 6-18, Subarticle 609-5(E)

Delete the third and fourth sentence in the first full paragraph on this page and substitute the following:

Maintain all QC records, forms and equipment calibrations for a minimum of 3 years from their completion date.

Delete the second full paragraph on this page and substitute the following:

Falsification of test results, documentation of observations, records of inspection, adjustments to the process, discarding of samples and/or test results, or any other deliberate misrepresentation of the facts will result in the revocation of the applicable person's QMS certification. The Engineer will determine acceptability of the mix and/or pavement represented by the falsified results or documentation. If the mix and/or pavement in question is determined to be acceptable, the Engineer may allow the mix to remain in place at no pay for the mix, asphalt binder and other mix components. If the mix and/or pavement represented by the falsified results is determined not to be acceptable, remove and replace with mix, which complies with the Specifications. Payment will be made for the actual quantities of materials required to replace the falsified quantities, not to exceed the original amounts.

QUALITY ASSURANCE

Page 6-18, Article 609-6

In Item 5 under Plant Mix Quality Assurance, add "at a frequency equal to or greater than 5% of the QC sample frequency".

In the first sentence within the paragraph below Plant Mix Quality Assurance, delete the words "of mix".

In Item 1 under Density Quality Assurance, delete the wording at the end of the sentence "at a frequency equal to or greater than 10% of the frequency required of the Contractor".

Page 6-19, Article 609-6

In Item 4 under Density Quality Assurance, add "at a frequency equal to or greater than 5% of the QC sample frequency."

Insert the following after Item 4 under Density Quality Assurance:

6. By periodically directing the recalculation of random numbers for the Quality Control core or nuclear density test locations. The original QC test locations may be tested by QA and evaluated as verification tests.

LIMITS OF PRECISION

Page 6-19, Article 609-6

In the limits of precision table, delete the last three rows and substitute the following:

QA retest of prepared QC Gyratory Compacted Volumetric Specimens	± 0.015
Retest of QC Core Sample	± 1.2% (% Compaction)
Comparison of QA Core Sample	± 2.0% (% Compaction)
QA Verification Core Sample	± 2.0% (% Compaction)
Nuclear Comparison of QC Test	± 2.0% (% Compaction)
QA Nuclear Verification Test	± 2.0% (% Compaction)

ASPHALT CONCRETE PLANT MIX PAVEMENTS – DESCRIPTION

Page 6-21, Article 610-1

Insert the following after the last paragraph in this Article:

A high frequency of asphalt plant mix, density, or mix and density deficiencies occurring over an extended duration of time may result in future asphalt, which is represented by mix and/or density test results not in compliance with minimum specification requirements, being excluded from acceptance at an adjusted contract unit price in accordance with Article 105-3. This acceptance process may apply to all asphalt produced and /or placed and may continue until the Engineer determines a history of quality asphalt production and placement is reestablished.

MATERIALS

Page 6-21, Article 610-2

Delete reference of Anti-strip additive (chemical) to Article 1020-2 and substitute Article 1020-8.

COMPOSITION OF MIXTURES (MIX DESIGN AND JOB MIX FORMULA)

Page 6-21, Subarticle 610-3(A)

At the end of the second paragraph under this Subarticle, add the following sentence:

In addition, submit Superpave gyratory compactor printouts for all specimens compacted at N_{des} and N_{max} during the mix design process.

Insert the following paragraph after the second paragraph under this Subarticle:

For the final surface layer of the specified mix type, use a mix design with an aggregate blend gradation above the maximum density line on the 2.36 mm and larger sieves.

Insert the following at the end of the third paragraph under this Article:

When the percent of binder contributed from RAS or a combination of RAS and RAP exceeds 20 percent of the total binder in the completed mix, the virgin binder PG grade must be one grade below (both high and low temperature grade) the binder grade specified in Table 610-2 for the mix type.

Delete the fourth paragraph in this Subarticle and substitute the following:

For Type S 12.5D mixes, the maximum percentage of reclaimed asphalt material is limited to 15% and must be produced using virgin asphalt binder grade PG 76-22. For all other recycled mix types, when the percentage of RAP is 15 percent or less of the total mixture, the virgin binder PG grade must be as specified in Table 610-2 for the specified mix type. When the percentage of RAP is greater than 15 but not more than 25 percent of the total mixture, the virgin binder PG grade must be one grade below (both high and low temperature grade) the specified grade for the mix type. When the percentage of RAP is greater than 25 percent of the total mixture, the Engineer will establish and approve the asphalt binder grade.

Page 6-22, Subarticle 610-3(A)

Insert the following sentence at the end of the Item 4:

If natural sand is utilized in the proposed mix design, determine and report the Uncompacted Void Content of the natural sand in accordance with AASHTO T-304, Method A.

Page 6-23, Subarticle 610-3(A)

Under the quantities of mix components insert the following sentence:

When requested by the Engineer, submit to the Department's Materials and Tests Unit, in Raleigh, six (6) Superpave Gyratory Compactor specimens compacted to a height of 75 mm and to a void content (VTM) of 4.0% +/- 0.5% for performance rut testing with the Asphalt Pavement Analyzer.

JOB MIX FORMULA

Page 6-24, Subarticle 610-3(C)

Delete Table 610-1 and associated notes. Substitute the following:

TABLE 610-1
SUPERPAVE AGGREGATE GRADATION DESIGN CRITERIA

Standard Sieves	Percent Passing Criteria (Control Points) Mix Type (Nominal Maximum Aggregate Size)											
	4.75 mm (a)		9.5 mm (c)		12.5 mm (c)		19.0 mm		25.0 mm		37.5 mm	
(mm)	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
50.0												100.0
37.5										100.0	90.0	100.0
25.0								100.0	90.0	100.0		90.0
19.0						100.0	90.0	100.0		90.0		
12.5				100.0	90.0	100.0		90.0				
9.5		100.0	90.0	100.0		90.0						
4.75	90.0	100.0		90.0								
2.36	65.0	90.0	32.0**(b)**	67.0**(b)**	28.0	58.0	23.0	49.0	19.0	45.0	15.0	41.0
1.18												
0.600												
0.300												
0.150												
0.075	4.0	8.0	4.0	8.0	4.0	8.0	3.0	8.0	3.0	7.0	3.0	6.0

(a) For Type S 4.75A, a minimum of 50% of the aggregate components shall be manufactured material from the crushing of stone.

(b) For Type SF 9.5A, the percent passing the 2.36mm sieve shall be a minimum of 60% and a maximum of 70%.

(c) For the final surface layer of the specified mix type, use a mix design with an aggregate blend gradation above the maximum density line on the 2.36 mm and larger sieves.

Page 6-25, Subarticle 610-3(C),

Delete Table 610-2 and associated notes. Substitute the following:

TABLE 610-2
SUPERPAVE MIX DESIGN CRITERIA

	Design	Binder	Compaction Levels			Volumetric Properties (c)			
Mix	ESALs	PG							
Type	millions	Grade	No. Gyrations @			VMA	VTM	VFA	%Gmm
(f)	(a)	(b)	N_{ini}	N_{des}	N_{max}	% Min.	%	Min. - Max.	@ N_{ini}
S-4.75A	<0.3	64 -22	6	50	75	20.0	7.0-15.0		
SF-9.5A	<0.3	64 -22	6	50	75	16.0	3.0 - 5.0	70 - 80	≤ 91.5
S-9.5B	0.3 - 3	64 -22	7	75	115	15.0	3.0 - 5.0	65 - 80	≤ 90.5
S-9.5C	3 - 30	70 -22	8	100	160	15.0	3.0 - 5.0	65 - 76	≤ 90.0
S-12.5C	3 - 30	70 -22	8	100	160	14.0	3.0 - 5.0	65 - 75	≤ 90.0
S-12.5D	> 30	76 -22	9	125	205	14.0	3.0 - 5.0	65 - 75	≤ 90.0
I-19.0B	< 3	64 -22	7	75	115	13.0	3.0 - 5.0	65 - 78	≤90.5
I-19.0C	3 - 30	64 -22	8	100	160	13.0	3.0 - 5.0	65 - 75	≤ 90.0
I-19.0D	> 30	70 -22	9	125	205	13.0	3.0 - 5.0	65 - 75	≤ 90.0
B-25.0B	< 3	64 -22	7	75	115	12.0	3.0 - 5.0	65 - 78	≤ 90.5
B-25.0C	> 3	64 -22	8	100	160	12.0	3.0 - 5.0	65 - 75	≤ 90.0
B-37.5C	> 3	64 -22	8	100	160	11.0	3.0 - 5.0	63 - 75	≤ 90.0
	Design Parameter					Design Criteria			
All	1. $\%G_{mm}$ @ N_{max}					≤ 98.0% **(d)**			
Mix	2. Dust to Binder Ratio ($P_{0.075}$ / P_{be})					0.6 - 1.4			
Types	3. Retained Tensile Strength (TSR) (AASHTO T 283 Modified)					85 % Min. **(e)**			

Notes:
(a) Based on 20 year design traffic.
(b) When Recycled Mixes are used, select the binder grade to be added in accordance with Subarticle 610-3(A).
(c) Volumetric Properties based on specimens compacted to N_{des} as modified by the Department.
(d) Based on specimens compacted to N_{max} at selected optimum asphalt content.
(e) AASHTO T 283 Modified (No Freeze-Thaw cycle required). TSR for Type S 4.75A, Type B 25.0 and Type B 37.5 mixes is 80% minimum.
(f) Mix Design Criteria for Type S 4.75A may be modified subject to the approval of the Engineer

WEATHER, TEMPERATURE, AND SEASONAL LIMITATIONS FOR PRODUCING AND PLACING ASPHALT MIXTURES

Page 6-26, Article 610-4, Table 610-3

Delete the title of Table 610-3 and substitute the following title:

ASPHALT PLACEMENT- MINIMUM TEMPERATURE REQUIREMENTS

In the first column, third row; delete reference to the ACSC Types S 9.5A and S 12.5B mix.

Add the following minimum placing temperatures for mix types S 4.75A and SF 9.5A.

Asphalt Concrete Mix Type	Minimum Air Temperature	Minimum Road Surface Temperature
ACSC, Type S 4.75A, SF 9.5A	40°F (5°C)	50°F (10°C)

SPREADING AND FINISHING

Page 6-32, Article 610-8

Insert the following after the second sentence within the sixth paragraph in this Article,

Take necessary precautions during production, loading of trucks, transportation, truck exchanges with paver, folding of the paver hopper wings, and conveying material in front of the screed to prevent segregation of the asphalt mixtures.

Page 6-33, Article 610-8

At the end of the third full paragraph on this page, add the following sentence:

Waiver of the use of automatic screed controls does not relieve the Contractor of achieving plan grades and cross-slopes.

DENSITY REQUIREMENTS

Page 6-34, Article 610-10,

Delete Table 610-4 and substitute the following table and associated notes:

Table 610-4
MINIMUM DENSITY REQUIREMENTS

MIX TYPE	MINIMUM % of G_{mm}
SUPERPAVE MIXES	**(Maximum Specific Gravity)**
S 4.75A	85.0[(a,b)]
SF 9.5A	90.0
S 9.5X, S 12.5X, I 19.0X, B 25.0X, B 37.5X	92.0

(a) All S 4.75A pavement will be accepted for density in accordance with Article 105-3

(b) Compaction to the above specified density will be required when the S 4.75 A mix is applied at a rate of 100 lbs/sy (55 kg/m^2)

Page 6-34, Article 610-10

Delete the second paragraph in this Article and substitute the following:

Compact base and intermediate mix types (surface mixes not included) utilized for pavement widening of less than 4.0 feet (1.2 meters) and all mix types used in tapers, irregular areas and intersections (excluding full width travel lanes of uniform thickness), using equipment and procedures appropriate for the pavement area width and/or shape. Compaction with equipment other than conventional steel drum rollers may be necessary to achieve adequate compaction. Occasional density sampling and testing to evaluate the compaction process may be required. Densities lower than that specified in Table 610-4 will be accepted, in accordance with Article 105-3, for the specific mix types and areas listed directly above.

SURFACE REQUIREMENTS AND ACCEPTANCE

Page 6-35, Article 610-12

Delete the first paragraph in this Article and substitute the following:

Construct pavements using quality paving practices as detailed herein. Construct the pavement surface smooth and true to the plan grade and cross slope. Immediately correct any defective areas with satisfactory material compacted to conform with the surrounding area. Pavement imperfections resulting from unsatisfactory workmanship such as segregation, improper longitudinal joint placement or alignment, non-uniform edge alignment and excessive pavement repairs will be considered unsatisfactory and if allowed to remain in place will be accepted in accordance with Article 105-3.

When directed due to unsatisfactory laydown or workmanship, operate under the limited production procedures. Limited production for unsatisfactory laydown is defined as being restricted to the production, placement, compaction, and final surface testing (if applicable) of a sufficient quantity of mix necessary to construct only 2500 feet (750 meter) of pavement at the laydown width.

Remain on limited production until such time as satisfactory laydown results are obtained or until three consecutive 2500 foot (750 meter) sections have been attempted without achieving satisfactory laydown results. If the Contractor fails to achieve satisfactory laydown results after three consecutive 2500 foot (750 meter) sections have been attempted, cease production of that mix type until such time as the cause of the unsatisfactory laydown results can be determined. As an exception, the Engineer may grant approval to produce a different mix design of the same mix type if the cause is related to mix problem(s) rather than laydown procedures.

Mix placed under the limited production procedures for unsatisfactory laydown or workmanship will be evaluated for acceptance in accordance with Article l05-3.

DENSITY ACCEPTANCE

Page 6-36, Article 610-13

Delete the second paragraph on this page and substitute the following:

The pavement will be accepted for density on a lot by lot basis. A lot will consist of one day's production of a given job mix formula on a contract. As an exception, separate lots will be established when the one of the following occurs:

(6) Portions of pavement are placed in both "New" and "Other" construction categories as defined below. A lot will be established for the portion of the pavement in the "New" construction category and a separate lot for the portion of pavement in the "Other" construction category.

(7) Pavement is placed on multiple resurfacing maps, unless otherwise approved prior to paving. A lot will be established for each individual resurfacing map or portion thereof.

(8) Pavement is placed simultaneously by multiple paving crews. A lot will be established for the pavement placed by each paving crew.

(9) Pavement is placed in different layers. A lot will be established for each layer.

(10) Control strips are placed during limited production.

The Engineer will determine the final category and quantity of each lot for acceptance purposes.

Page 6-36, Article 610-13

Delete the first sentence in the third paragraph on this page and insert the following:

The "New" construction category will be defined as pavements of uniform thickness, exclusive of irregular areas, meeting all three of the following criteria:

Delete the sixth paragraph in this Article and substitute the following:

A failing lot for density acceptance purposes is defined as a lot for which the average of all test sections, and portions thereof, fails to meet the minimum specification requirement. If additional density sampling and testing, beyond the minimum requirement, is performed and additional test sections are thereby created, then all test results shall be included in the lot average. In addition, any lot or portion of a lot that is obviously unacceptable will be rejected for use in the work.

Page 6-36, Article 610-13

Delete the last paragraph on this page and substitute the following:

Any density lot not meeting minimum density requirements detailed in Table 610-4 will be evaluated for acceptance by the Engineer. If the lot is determined to be reasonably acceptable, the mix will be paid at an adjusted contract price in accordance with Article 105-3. If the lot is determined not to be acceptable, the mix will be removed and replaced with mix meeting and compacted to the requirement of these specifications.

BASIS OF PAYMENT, ASPHALT PAVEMENTS

Page 6-37, Article 610-16

Add the following to the second paragraph:

The quantity of hot mix asphalt pavement, measured as provided in Article 610-15, will be paid for at the contract unit prices per ton (metric ton) for "Asphalt Concrete Surface Course, Type S 4.75A, and SF 9.5A".

Add the following to the payment item description:

Asphalt Concrete Surface Course, Type S 4.75A..... Ton (Metric Ton)
Asphalt Concrete Surface Course, Type SF 9.5A..... Ton (Metric Ton)

Delete reference to the Asphalt Concrete Surface Course, Types S 9.5A and S 12.5B in both the second paragraph and in the payment description.

ASPHALT BINDER FOR PLANT MIX - METHOD OF MEASUREMENT

Page 6-39, Article 620-4

Delete the first sentence of the second paragraph on this page and substitute the following:

Where recycled plant mix is being produced, the grade of asphalt binder to be paid for will be the grade for the specified mix type as required in Table 610-2 unless otherwise approved.

CONSTRUCTION REQUIREMENTS

Page 6-43, Article 650-5

Add the following paragraph after the first paragraph under this Article:

Do not place open-graded asphalt friction course between October 31 and April 1 of the next year, unless otherwise approved. Place friction course, Type FC-1 mixes, only when the road surface temperature is 50°F (10°C) or higher and the air temperature is 50°F (10°C) or higher. The minimum air temperature for Type FC-1 Modified and FC-2 Modified mixes will be 60°F (15°C).

AGGREGATES FOR ASPHALT PLANT MIXES

Page 10-34, Subarticle 1012-1(B)4

Delete this Subarticle and substitute the following:

(4) Flat and Elongated Pieces:

Use coarse aggregate meeting the requirements of Table 1012-1 for flat and elongated pieces when tested in accordance with ASTM D 4791 (Section 8.4) on the No. 4 (4.75 mm) sieve and larger with a 5:1 aspect ratio (maximum to minimum) for all pavement types, except there is no requirement for Types S 4.75A, SF 9.5A, and S 9.5B.

Page 10-35, Table 1012-1

Delete Table 1012-1 and substitute the following:

Table 1012-1
AGGREGATE CONSENSUS PROPERTIES[a]

Mix Type	Course Aggregate Angularity[b]	Fine Aggregate Angularity	Sand Equivalent	Flat & Elongated
		% Minimum	% Minimum	% Maximum
	ASTM D 5821	AASHTO T 304 Method A	AASHTO T 176	ASTM D 4791 Section 8.4
S 4.75 A		40	40	
SF 9.5 A S 9.5 B I 19.0 B B 25.0 B	75 / -	40	40	10[c]
S 9.5 C S 12.5 C I 19.0 C B 25.0 C B 37.5 C	95 / 90	45	45	10
S 12.5 D I 19.0 D	100 / 100	45	50	10
OGAFC	100 / 100	N/A	N/A	10

(a) Requirements apply to the course aggregate blend and/or fine aggregate blend
(b) 95/90 denotes that 95% of the course aggregate (+No.4 or + 4.75mm sieve)has one fractured face and 90% has two or more fractured faces.
(c) Does not apply to Mix Types SF 9.5 A or S 9.5 B

Page 10-36, Subarticle 1012-1(C)1

Insert the following after the fourth paragraph on this page:

When natural sand is utilized in "C" or "D" level asphalt mixes, do not exceed the maximum natural sand percentage in the mix design and/or production aggregate blend detailed in Table 1012-1A.

Table 1012-1A

Uncompacted Void Content of Fine Aggregate AASHTO T 304 Method A	Maximum Percent Natural Sand Included in Mix Design and/or Production*
Less than 42.0	10
Equal to 42.0 to 44.9	15
Equal to 45.0 and greater	20

*Maximum percent natural sand may be exceeded with approval from Pavement Construction Engineer upon satisfactory evaluation of pavement performance testing

FINE AGGREGATE ANGULARITY

Page 10-36, Subarticle 1012-1(C)6

Delete reference to AASHTO TP 33 Method A and substitute AASHTO T 304, Method A.

Page 10-37, Subarticle 1012-1(H)

Delete this Subarticle. It is a duplicate of Subarticle 1012-1(F) located on Page 10-36.

ASPHALT BINDER

Page 10-46, Article 1020-2

Delete the first paragraph under this Article and substitute the following:

Use Performance Graded Asphalt Binder meeting the requirements of AASHTO M 320. See Article 610-3 for the specified grades. Submit a Quality Control Plan for asphalt binder production in conformance with the requirements of AASHTO R 26 to the Materials and Tests Unit.

SP6R01

ASPHALT PAVER – FIXED STRING LINE: **10-21-03**

The Contractor's attention is directed to Article 610-8 of the Standard Specifications dealing with automatically controlled screeds on the asphalt pavement spreaders.

A fixed string line is required on this project.

SP6R06

ASPHALT BINDER CONTENT OF ASPHALT PLANT MIXES: **11-21-00$_R$**

The approximate asphalt binder content of the asphalt concrete plant mixtures used on this project will be as follows:

Asphalt Concrete Base Course, Type B 25.0__	4.3%
Asphalt Concrete Intermediate Course, Type I 19.0__	4.7%
Asphalt Concrete Surface Course, Type S 4.75A	7.0%
Asphalt Concrete Surface Course, Type SF 9.5A	6.5%
Asphalt Concrete Surface Course, Type S 9.5__	6.0%
Asphalt Concrete Surface Course, Type S 12.5__	5.5%

The actual asphalt binder content will be established during construction by the Engineer within the limits established in the Standard Specifications or Project Special Provisions.

SP6R15

ASPHALT PLANT MIXTURES: **7-1-95$_c$**

Place asphalt concrete base course material in trench sections with asphalt pavement spreaders made for the purpose or with other equipment approved by the Engineer.

SP6R20

PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX: **11-21-00**

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the Standard Specifications as modified herein.

The base price index for asphalt binder for plant mix is $210.28 per ton (metric ton).

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on June 1, 2004.

SP6R25

DISPOSAL OF WASTE AND DEBRIS: **2-19-02**

Revise the 2002 Standard Specifications as follows:

Page 8-9, Subarticle 802-2(7. Buffer Zones:)

At the end of the last sentence in this subarticle, add the words "unless superseded by an environmental permit."

SP8R03

GUARDRAIL POSTS AND OFFSET BLOCKS: **06-22-04**

Revise the *2002 Standard Specifications* as follows:

Page 10-69, Subarticle 1046-3

Delete this sub-article in its entirety and replace with the following:

1046-3 POSTS AND OFFSET BLOCKS.

(A) General:

The Contractor may at his option furnish either of the following types of steel guardrail posts. Only one type of post will be permitted at any one continuous installation. Use structural steel posts throughout the project, unless otherwise directed or detailed in the plans.

1. Steel W6 x 8.5 or W6 x 9.0 posts
2. Steel 4.5" x 6.0" "C" shape posts (C150 x 12.2 kg/m)

The Contractor may at his option furnish either of the following types of treated timber posts if specifically directed or detailed in the plans. Only one type of post will be permitted at any one continuous installation.

1. Timber 6" x 8" (152 mm x 203 mm) posts.
2. Timber 8" x 8" (203 mm x 203 mm) posts.

(B) Structural Steel Posts:

Fabricate steel posts for guardrail of the size and weight shown on the plans from structural steel complying with the requirements of Section 1072. Metal from which C shape posts are fabricated shall meet the requirements of ASTM A570 for any grade of steel, except that mechanical requirements shall meet the requirements of ASTM A36. Punch or drill the holes for connecting bolts. Burning will not be permitted. After fabrication, the posts shall be galvanized in accordance with Section 1076.

(C) Treated Timber Posts:

Timber guardrail posts shall be of treated southern pine meeting the requirements of Article 1082-2 and 1082-3.

Bore bolt holes to a driving fit for the bolts. A minus tolerance of 1 percent will be allowed in the length of the post. Perform all framing and boring before the posts receive preservative treatment.

(D) Offset Blocks:

Provide 8-inch deep recycled plastic or composite offset blocks that have been approved for use with the guardrail shown in the standard drawings and/or plans. Only one type of offset block will be permitted at any one continuous installation. Prior to beginning the installation of recycled offset block, submit the FHWA acceptance letter for each type of block to the Engineer for approval.

Treated timber offset blocks with steel beam guardrail will not be allowed unless required by Specifications, directed by the Engineer or detailed in the plans. Steel offset blocks with steel beam guardrail will not be allowed.

Recycled plastic or composite offset blocks shall be made from no less than 50% recycled plastic or composite, and shall meet the following minimum requirements:

- Specific Gravity: 0.950
- Compressive Strength in Lateral Direction: .....1600 psi (11 MPa)
- Maximum Water Absorption: .....10% by weight
- Maximum Termite and Ant Infestation: 10%
- Testing.....Shall pass NCHRP Report 350, Test Level 3 by CRASH TESTING

Revise the *2002 Standard Roadway Drawings* as follows:

Sheet 4 of 6, Standard 862.03, delete the note and substitute the following:

Note: The midpost and offset block of the WTR section will require special bolt hole drilling in the thrie beam offset block and line post.

SP8R57

GUARDRAIL ANCHOR UNITS, TYPE 350: **04-20-04**

DESCRIPTION

Furnish and install guardrail anchor units in accordance with the details in the plans, the applicable requirements of Section 862 of the Standard Specifications, and at locations shown in the plans.

MATERIALS

The Contractor may at his option, furnish any one of the guardrail anchor units.

Guardrail anchor unit (ET-2000) as manufactured by:

TRINITY INDUSTRIES, INC.
2525 N. STEMMONS FREEWAY
DALLAS, TEXAS 75207
TELEPHONE: 1-800-644-7976

The guardrail anchor unit (SKT 350) as manufactured by:

ROAD SYSTEMS, INC.
3616 OLD HOWARD COUNTY AIRPORT
BIG SPRING, TEXAS 79720
TELEPHONE: (915) 263-2435

Prior to installation the Contractor shall submit to the Engineer:

1. FHWA acceptance letter for each guardrail anchor unit certifying it meets the requirements of NCHRP Report 350, Test Level 3, in accordance with Section 106-2 of the Standard Specifications.

2. Certified working drawings and assembling instructions from the manufacturer for each guardrail anchor unit in accordance with Section 105-2 of the Specifications.

No modifications shall be made to the guardrail anchor unit without the express written permission from the manufacturer. Perform installation in accordance with the details in the plans, and details and assembling instructions furnished by the manufacturer.

CONSTRUCTION

Guardrail end delineation is required on all approach and trailing end sections for both temporary and permanent installations. Guardrail end delineation consists of yellow reflective sheeting applied to the entire end section of the guardrail in accordance with Section 1088-3 of the Standard Specifications and is incidental to the cost of the guardrail anchor unit.

MEASUREMENT AND PAYMENT

Measurement and payment will be made in accordance with Articles 862.5 and 862-6 of the Standard Specifications.

Payment will be made under:

Guardrail Anchor Units, Type 350 .....Each

SP8R65

GATE RESET:

Description:

Reset existing metal gate and associated metal poles in accordance with this provision and as directed by the Engineer. The work includes but is not limited to removing, hauling and re-erecting the existing gate; and furnishing and installing any gate components unnecessarily damages by the Contractor's forces.

Construction Methods:

Reset the gate in a condition that is equal to or better than existing.

The Contractor will be responsible for damage caused by livestock escaping or entering the existing gated area through the negligence of his forces.

Compensation:

All work covered by this provision will be paid for at the contract lump sum price for "Reset Existing Metal Gate and Reset Two Existing Metal Poles."

AGGREGATE PRODUCTION: **11-20-01**

Provide aggregate from a producer who utilizes the new Aggregate Quality Control/Quality Assurance Program that is in effect at the time of shipment.

No price adjustment is allowed to contractors or producers who utilize the new program. Participation in the new program does not relieve the producer of the responsibility of complying with all requirements of the Standard Specifications. Copies of this procedure are available upon request from the Materials and Test Unit.

SP10R05

CONCRETE BRICK AND BLOCK PRODUCTION: **11-20-01**

Provide concrete brick and block from a producer who utilizes the new Solid Concrete Masonry Brick/Unit Quality Control/Quality Assurance Program that is in effect on the date that material is received on the project.

No price adjustment is allowed to contractors or producers who utilize the new program. Participation in the new program does not relieve the producer of the responsibility of complying with all requirements of the Standard Specifications. Copies of this procedure are available upon request from the Materials and Test Unit.

SP10R10

FINE AGGREGATE: **11-19-02**

Revise the 2002 Standard Specifications as follows:

Page 10-17, Table 1005-2

Make the following change to the table:

For Standard Size 2MS the following gradation change applies.

The minimum percent shown for material passing the No. 8 (2.36mm) sieve has been changed from 84 to **80.**

SP10R15

BORROW MATERIAL **02-17-04**

Revise the 2002 Standard Specifications as follows:

Page 10-44

Section 1018-2 II (b) Delete the last sentence in its entirety.

SP10R17

TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC: **1-15-02$_R$**

Revise the 2002 Standard Specifications as follows:

Delete Section 1175 and insert the following:

Description

Furnish, install, and remove sheeting, shoring, and bracing necessary to maintain traffic at locations shown on the Traffic Control Plans, and other locations determined during construction. Shoring required to maintain traffic is defined as shoring necessary to provide lateral support to the side of an excavation or embankment parallel to an open travelway when a theoretical 2:1 or steeper slope from the bottom of the excavation or embankment intersects the existing ground line closer than five (5) feet (1.5 m) from the edge of pavement of the open travelway. Contractor has option of submitting their own shoring design or using the Standard shoring design, unless otherwise noted in the plans.

Materials

Sheet piling must be hot rolled and conform to the requirements of ASTM A328.

Steel piles must conform to the requirements of ASTM A36.

Timber and lumber must conform to the requirements of Article 1082-1 in Standard Specifications.

Include all materials proposed for use in temporary shoring in the shoring design submittal described below.

Provide a Type 7 Contractor's Certification for all shoring materials used.

Contractor Shoring Design

Submit shoring design for review and approval by the Engineer prior to beginning construction.

Submit calculations and detail drawings in accordance with section 410-4 of the Standard Specifications.

Design all temporary shoring in accordance with the latest edition of AASHTO's Guide Design Specifications for Bridge Temporary Works.

If temporary concrete barrier is to be located within three (3) feet (1 m) of the top of the shoring, measured to the back face of the barrier, then design the temporary shoring to resist the lateral movement of the barrier when struck by a vehicle and extend the shoring out of the ground at least to the top elevation of the temporary concrete barrier. Design the temporary shoring to resist an impact load of two (2) kips/foot (29 kN/m) applied at one and half (1.5) feet (0.5 m) above ground. This shoring will be paid for as "Temporary Shoring - Barrier Supported". Temporary concrete barrier is paid for separately.

Standard Shoring Design

Select the appropriate shoring design from the "Standard Temporary Shoring for Maintenance of Traffic" detail drawing as shown in the plans.

Submit a "Standard Shoring Selection Form" to Engineer a minimum of fourteen (14) days prior to beginning construction of shoring.

Find Standard Shoring Selection Form as follows:

1. Go to NCDOT webpage (www.doh.dot.state.nc.us)
2. Click on Doing Business with NCDOT link
3. Scroll down and click on Soils and Foundation Design Section Forms link
4. Click on Standard Shoring Selection Form

Criteria for the Standard Shoring Designs

- Maximum height of shoring excavation is eleven (11) feet (3.35 meters).
- Groundwater table is not above bottom of shoring excavation.
- Traffic surcharge equal to 240 psf (11 kPa).
- Soldier pile spacing is six (6) feet (1.8 meters).
- Soldier pile embedment depths are for driven piles.
- Timber lagging must have minimum thickness of three (3) inches (76 mm).
- Timber must have a minimum allowable bending stress of 1000 psi (6895 kPa).

If conditions at the shoring location do not meet the criteria of the Standard shoring design as outlined above and in the plans, then Contractor must submit a shoring design to the Engineer for approval.

Construction Methods

Install and interlock steel sheet piles to a tolerance of not more than 3/8 inch per foot (30mm per meter) from vertical.

If soldier piles are used, then install piles to a tolerance of not more than 1/4 inch per foot (20mm per meter) from vertical.

If soldier piles are to be installed in drilled holes, then set piles in drilled holes and fill the holes as soon as practical after installing the piles.

Excavate or auger the soil and rock in two (2) foot (610 mm) diameter holes to the required embedment depth as shown on the approved design. Maintain holes, if required, by casing or other means. Set soldier piles to bottom of the hole prior to backfilling. Backfill holes with Class A concrete to the bottom of excavation. Fill remainder of hole with a lean sand-grout mixture to the ground surface. Remove mixture as necessary to install timber lagging.

Use timber lagging with a minimum three (3) inch (76mm) thickness perpendicular to the pile flange. Install timber lagging with a minimum bearing distance of three (3) inches (76 mm) on each pile flange. Backfill voids behind lagging with granular material or compacted excavated material to the satisfaction of the Engineer.

Backfill and compact fill for shoring excavation prior to removal of shoring.

If the design embedment depth is not achieved, then notify the Engineer immediately.

Method of Measurement

The quantity of temporary shoring to be paid for will be the actual number of square feet (square meter) of exposed face of the shoring measured from the bottom of the shoring excavation or embankment to the top of the shoring, with the upper limit for pay purposes not to exceed one (1) foot (0.3 m) above the retained ground elevation.

The quantity of temporary shoring - barrier supported to be paid for will be the actual number of square feet (square meter) of exposed face of the shoring measured from the bottom of the excavation or embankment to the top of the shoring, with the upper limit for pay purposes not to exceed one (1) foot (0.3 m) above the retained ground elevation.

Basis of Payment

Payment for temporary shoring will only be made at locations where it is required in order to maintain traffic. Trench boxes are not considered temporary shoring for the maintenance of traffic and will not be paid for under this special provision. Such payment will include, but not limited to, furnishing all labor, tools, equipment, and all incidentals necessary to install shoring and complete the work as described in this special provision.

The quantity of shoring necessary for the maintenance of traffic, measured as provided above, will be paid for at the contract unit price per square foot (square meter) of "Temporary Shoring".

The quantity of shoring with temporary concrete barrier located within three (3) feet (1.0 meter) of the shoring will be paid for at the contract unit price per square foot (square meter) of "Temporary Shoring - Barrier Supported".

Payment will be made under:

Temporary Shoring.....Square Feet (Square Meter)
Temporary Shoring - Barrier Supported.....Square Feet (Square Meter)

SP11R01

DRUMS: **07-16-02**

Revise the 2002 Standard Specifications as follows:

Page 10-195, Subarticle 1089-5(C)

Delete the first (1st) sentence of the first (1st) paragraph and insert the following:

"Provide a minimum of three orange and two white alternating horizontal circumferential stripes covering the entire outside with each drum."

SP11R05

PORTABLE CONCRETE BARRIER: **11-19-02**

Portable Concrete Barrier used on this project must meet one of the following:

- NC Approved NCHRP 350 Portable Concrete Barrier (design can be found at http://www.doh.dot.state.nc.us/preconstruct/traffic/congestion/TC/ or can be obtained by calling the Traffic Control Section at (919) 250-4159)
- Other NCHRP 350 Portable Concrete Barrier as approved by the Engineer and the Traffic Control Section
- NC Approved NCHRP 230 Portable Concrete Barrier in Roadway Standard Drawing 1170.01 manufactured before October 1, 2002

SP11R10

PAVEMENT MARKING GENERAL REQUIREMENTS: **07-16-02**

Revise the 2002 Standard Specifications as follows:

Page 12-10, Subarticle 1205-3(J)

Delete the first (1st) sentence of the first (1st) paragraph and insert the following:

"Have at least one member of every pavement marking crew working on a project certified through the NCDOT Pavement Marking Technician Certification Process. For more information contact the Traffic Control, Marking and Delineation Section of the North Carolina Department of Transportation at 919-250-4151 or http://www.doh.dot.state.nc.us/preconstruct/traffic/congestion/TC/"

SP12R01

May 10, 2004

Project: B-3348
County: Hyde

05/10/04

PROJECT SPECIAL PROVISIONS
Utility Construction

I. GENERAL CONSTRUCTION REQUIREMENTS:

Specifications:

The proposed utility construction shall meet the applicable requirements of the NC Department of Transportation's "Standard Specifications for Roads and Structures" dated January 2002, and the following provisions.

Lay water mains at least 10 feet laterally from existing or proposed sanitary sewers.

The depth of pipeline installation may vary to achieve minimum clearance of existing or proposed utilities or storm drainage while maintaining minimum cover specified (whether existing or proposed pipelines, conduits, cables, mains and storm drainage are shown on the plans or not).

On new sewer force mains and tie-in sections of sewer force mains, the method of anchoring pipe bends, plugs, caps, tees, reducing sections, valves, and related appurtenances will be the responsibility of the Contractor. Tying into existing sewer force mains may alter such lines to the extent that these pipelines with fittings, valves, and appurtenances may also require reaction backing or restraint; this work shall also be the responsibility of the Contractor.

The Contractor shall submit his proposed method of anchoring to the Engineer for review and approval before any applicable sewer force mains construction. Such approval will not relieve the Contractor of his responsibility of properly anchoring the sewer force mains system.

After the installed pipe, fittings, valves, hydrants, corporation stops and end plugs are inserted and secured, the pipe line shall be subjected to a hydrostatic pressure test of 200 psi for a period of 2 hours, by pumping the section full of clean water using an approved pressure pump. Cross connection for flushing and chlorination shall be made by means of a temporary connection from the supply pipe with an approved backflow prevention device. Taps for the cross connection piping shall be made to the portion of the existing water main that will be removed from service. The proposed water main shall be laid to within one pipe length of the point of final connection prior to flushing and testing. All flushing and chlorination work shall be preformed in accordance with AWWA C651-99. All fittings, valves and backflow prevention devices required for chlorination and testing shall be incidental to the cost of the proposed pipe being tested.

Contractor shall make such arrangements, as the utility owner requires, for measuring and paying for water required to flush and test water mains.

Copies of bacteriological testing reports shall be provided to the utility owner prior to activating new water mains.

Owner and Owner's Requirements:

The existing utilities belong to the Englehard Sanitary District. The Contractor shall provide access for the owner's representatives to all phases of construction. Notify the owner two weeks before commencement of any work and one week before service interruption.

Utility Locations Shown on the Plans:

The location, size, and type material of the existing utilities shown on the plans are from the best available information. The Contractor will be responsible for determining the exact location, size, and type material of the existing facilities

No direct payment will be made for utility construction work required by the preceding provisions, which are general requirements applying to utility construction, and all of the requirements stated will be considered incidental work, paid for at the contract unit prices of the various utility items included in the contract.

II. COMPENSATION:

No direct payment will be made for utility construction work required by the preceding provisions, which are general requirements applying to utility construction, and all the requirements stated will be considered incidental work, paid for at the contract unit prices of the various utility items included in the contract.

1. BEDDING MATERIAL:

Bedding material for utility lines shall be installed in accordance with the applicable utility provisions herein, as shown on the utility construction plans, and/or as directed by the Engineer.

Bedding material shall meet the requirements of Article 1016-3 of the Standard Specifications. Bedding material shall be installed in accordance with Articles 300-6 and 300-7 of the Standard Specifications.

Bedding material installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per ton for "Bedding Material, Utilities Class IV". Such prices and payments shall be full compensation for all materials, labor, equipment, compaction and shaping the bedding material in accordance with Article 300-4 of the Standard Specifications, and incidentals necessary.

2. DUCTILE IRON "RESTRAINED JOINT" FORCE MAIN SEWER PIPE:

Ductile Iron Restrained Joint Force Main Sewer Pipe shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans and/or as directed by the Engineer.

Ductile Iron Restrained Joint Force Main Sewer Pipe shall be of the thickness class and pressure rating shown on the utility plans and shall conform to ANSI A21.51 (AWWA C151) Push-on joints for such pipe shall be in accordance with ANSI A21.11 (AWWA C111). Pipe thickness shall be designed in accordance with ANSI A21.50 (AWWA C150) and based on laying conditions and internal pressures as stated on the plans.

Cement mortar lining and seal coating for pipe shall be in accordance with ANSI A21.4 (AWWA C104). Bituminous outside coating shall be in accordance with ANSI A21.51 (AWWA C151).

All Ductile Iron Restrained Joint Force Main Sewer Pipe shall be installed in accordance with laying condition Type 2 as stated in ANSI A21.51 (AWWA C151) unless otherwise shown on the plans.

Ductile Iron Restrained Joint Force Main Sewer Pipe, installed in accordance with the plans and provisions herein and accepted, will be measured along the pipe from end to end, with no deductions for fittings and valves, and paid for at the contract unit price per linear foot for, "___" DI Restrained Joint Force Main Sewer Pipe, PC 350". Such prices and payments will be full compensation for all materials, including pipe accessories, excavation, labor, pressure testing, sterilization, backfilling, and incidentals necessary to complete the work as required.

3. DUCTILE IRON RESTRAINED JOINT FORCE MAIN SEWER PIPE FITTINGS:

Ductile Iron Restrained Joint Force Main Sewer Pipe Fittings shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans and/or as directed by the Engineer.

Ductile Iron Restrained Joint Bends and Tees shall be in accordance with applicable requirements of ANSI A21.10 (AWWA C110). Joints for such bends and tees shall be in accordance with ANSI A21.11 (AWWA C111) and be cement mortar lined with a seal coat in accordance with ANSI A21.4 (AWWA C104). All restrained joint force main sewer pipe fittings shall have a minimum working pressure of 250 # WP.

Restrained retainer glands shall be high strength ductile iron conforming to ASTM A536. Restrained retainer glands shall be capable of restraining mechanical joints for a minimum working pressure of 250# WP. The Restrained retainer glands shall have a series of machined serration on the inside diameter

of the retainer, which provides a grip on the pipe surface, with 360° contact and support of the barrel. The split design allows use on existing pipe installations. On new installations, use one piece restrained retainer glands.

The quantity of Ductile Iron Restrained Joint Force Main Sewer Pipe Fittings, installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per pound for "DI Restrained Joint Force Main Sewer Pipe Fittings, 250# WP". Such price and payment will be full compensation for all materials, including pipe accessories, labor, installation, backfilling, and incidentals necessary to complete the work as required.

4. HDPE FORCE MAIN SEWER PIPE BY DIRECTIONAL BORE:

High-density polyethylene (HDPE) Force Main Sewer Pipe shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

HDPE Force Main Sewer Pipe shall be 10", SDR 9, 200 # WP, manufactured in accordance with ANSI/AWWA C906 (Polyethylene Pressure Pipe and Fittings, 4" through 64", For Water Distribution, Ductile Iron Pipe Size (DIPS)). HDPE pipe materials shall be made from materials conforming to standard PE code designation PE 3408.

The Contractor shall furnish fittings necessary to connect the DIRJ force main sewer to the HDPE, and fuse the fittings onto each end of the HDPE section of Force Main Sewer line.

Concrete for thrust restraint shall be Class A concrete meeting the requirements of Section 1000 of the Standard Specification. The concrete shall be placed around the pipe as shown on the plans and/or as directed by the Engineer. The proposed HDPE force main sewer pipe shall have a thrust collar fused into the pipe string adjacent to the proposed adapter from HDPE to the DI fitting. The thrust collars shall be design to withstand the pull back force in the HDPE pipe and the internal thrust forces that can separate the pipe where the HDPE pipe transition to RJ DI pipe. The concrete thrust block shall be poured around the thrust collar to restrain the HDPE pipe. The proposed DI reducer shall be restrained with 3/4 " threaded steel rods formed into the concrete thrust block.

The reinforcing steel shall meet the requirements of Section 1070 of the Standard Specifications. Reinforcing steel shall be placed in the center of the thrust block and shall be tied to the threaded rods.

Threaded rods shall be A-36 steel and shall match the diameter of the bolts in the coupling and/or ductile iron force main pipe fitting, but shall be no less than 3/4" diameter. The proposed transition coupling and/or the nearest ductile iron force main pipe fitting shall be tied to the thrust block. A minimum of four threaded rods shall be used, located as shown on the plans.

Drilling fluid shall consist of a bentonite slurry. Admixtures may be added which are suitable to the site conditions encountered.

HDPE Force Main Sewer line shall be fused prior to placement beneath the stream noted on the plans. Join pipe segments by cutting ends square, heating and fusing under sufficient pressure to create a single length of pipe sufficient to complete installation in one continuous pulling operation. The pipe manufacturer's listing of fusion parameters, validated by appropriate testing, and the parameters of the Contractor's fusion systems, shall be submitted to the Resident Engineer prior to fusing segments of HDPE Force Main Sewer Pipe into the pipe string.

After installation, the HDPE Force Main Sewer Pipe string shall be tested under the stream to a hydrostatic pressure of 200# in accordance with the testing procedures outlined in Section 1520 of the Standard Specifications.

HDPE Force Main Sewer Pipe shall be installed beneath the stream by boring or drilling a small pilot hole along a parabolic arc beneath the stream. A minimum cover of 3' shall be maintained over the HDPE Force Main Sewer Pipe at all times. Enlarge the pilot hole by use of a reamer or reamers to the desired diameter. When the bored hole is of the diameter recommended by the pipe manufacturer for the 10" HDPE Force Main Sewer line, the Contractor shall pull the pipe string through the hole by the drill string. Cap the pipe string during the pulling operation. The pulling operation shall incorporate a swivel connection to minimize torsional stresses imposed upon the pipe string. Fully support the pipe string before and during pull back so that the pipe string will move freely without damage.

HDPE Force Main Sewer Pipe installed by directional boring shall not be connected to existing pipe or fittings for one week from the time of installation to allow tensional stresses to relax.

The Contractor may elect to conduct reaming and pulling of the pipe string in one operation at the discretion of the Engineer. The reamer head shall be fitted with a sleeve to prevent possible spalling that may become lodged and prohibit the pull back of the pipe string.

Drilling fluid that does not remain in the bore hole shall be collected and disposed of property. No drilling fluid shall enter the stream.

HDPE Force Main Sewer Pipe, installed in accordance with the plans and provisions herein and accepted, will be measured along the pipe from end to end, with no deductions for fittings or couplings, and paid for at the contract unit price per linear foot for "10" HDPE Force Main Sewer Pipe, SDR 9, 200# WP by Directional Bore". Such prices and payments will be full compensation for furnishing all labor, equipment, material, couplings and fittings, excavation, installation, testing, backfilling, and incidentals necessary to complete the work as required.

5. IN-LINE CHECK VALVE AND VAULT:

Check valves and vaults shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

Check valves shall be installed in the horizontal position. The check valve shall have a iron body, fully bronze mounted single bronze disc and bronze seat ring with swing type full opening and outside spring loaded lever arm capable of being mounted on either side of the valve. The check valve shall be rated for 175 psi working pressure. The check valves shall have mechanical joint end connections. All check valves shall have the name or monogram of the manufacturer, the year the valve casting was made, the size of the valve, and the working water pressure cast on the body of the valve. The check valve exterior shall be fully protected with 10 mils of epoxy coating

The vault shall be reinforced precast concrete and shall meet the requirements ASTM C478 and Section 1077 of the Standard Specifications. The vault shall be design to resist HS-20 traffic bearing loading and have a bolt down cast iron single access cover with two pull slots and skid resistant surface. The cast iron cover shall conform to ASTM A48, Class 30.

The quantity of check valves and vaults, installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per each for "___" In-Line Check Valve and Vault". Such prices and payments shall be full compensation for all labor, materials, excavation, backfilling, equipment, and incidentals necessary to complete the work as required.

6. GATE VALVE AND VALVE BOX:

Gate valves and valve boxes shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

Gate valves shall be the resilient wedge type, rate for 200 psi and suitable for utilization with domestic sewage. The gate valve shall consist of a cast iron body, a modified wedge disc, resilient rubber seat ring, non-rising stem bronze stem nut cast integrally with valve disc, and O-ring seals mounted above and below the thrust collar. The resilient seat gate valve shall provide a tight shutoff and a full port flow-way. The valve interior shall be fully protected by a two part thermosetting epoxy coating. The modified wedge shall be fully supported with the backside traveling along a machined surface in the valve body. Solid guide lugs on the disc will allow travel within channels cast in the sides of the valve. The resilient rubber seat ring shall be attached to an annular mounting surface on the front side of the disc with stainless steel screws. All gate valves shall be

furnished with mechanical joint end connections, unless otherwise shown on the Plans or specified herein. The end connections furnished shall be suitable for connections to the pipe furnished. All gate valves shall have the name or monogram of the manufacturer, the year the valve casting was made, the size of the valve, and the working water pressure cast on the body of the valve. The gate valve exterior shall be fully protected with 10 mils of epoxy coating. All valves shall be provided with a two-inch square operating nut and shall open by turning to the left (counterclockwise).

The valve boxes shall be cast iron, three piece, screw type with drop cover marked "Sewer". They shall be set vertically and properly adjusted so that the cover shall be in the same plane as the finished surface of the ground or street. The valve boxes shall conform to ASTM A48, Class 30.

The quantity of gate valves and valve boxes, installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per each for "8" Gate Valve and Valve Box, 200# WP". Such prices and payments shall be full compensation for all labor, materials, excavation, backfilling, equipment, and incidentals necessary to complete the work as required.

7. IN-LINE CLEAN-OUT AND VAULT:

Sanitary clean-outs and vaults shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

Sanitary clean-outs shall consist of a ductile iron 8"or 6"- wye, 8"or 6"- 45 degree bend and 8" or 6" plug used for the cap on the sewer clean-out, all manufactured with flange connections except for the wye which will have a flange connection for the clean-out and mechanical joint connection for the run along the force main. The ductile iron fittings shall conform to ANSI/AWWA C-153/A21.10 for compact fittings.

The vault shall be reinforced precast concrete and shall meet the requirements ASTM C478 and Section 1077 of the Standard Specifications. The vault shall be design to resist HS-20 traffic bearing loading and have a bolt down cast iron single access cover with two pull slots and skid resistant surface. The cast iron cover shall conform to ASTM A48, Class 30.

The quantity of sanitary clean-outs and vaults, installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per each for "___" In-Line Clean-out and Vault". Such prices and payments shall be full compensation for all labor, materials, excavation, backfilling, equipment, and incidentals necessary to complete the work as required.

8. TAPPING SLEEVE, VALVE, AND VALVE BOX:

Tapping sleeves, valves, and valve vaults shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

Tapping sleeves shall be cast iron, ductile iron, or Type 304 stainless steel and shall be pressure rated at 200 psi. Tapping sleeves shall be either the split sleeve type with mechanical joint ends or the full circle type with double seals. The outlet shall be 125# flange. The Contractor shall verify the type material, size, etc. of the existing pipe to be tapped prior to ordering the sleeve.

Tapping valves shall be iron body with flanged by mechanical ends and pressure rated at 200 psi. Tapping valves shall be AWWA type valves except the opening shall be clear to allow a full size cutter to pass thru. Tapping valves shall have non-rising stems with O-ring seals and 2 inch operating nut, and shall open by turning to the left (counterclockwise). Tapping valves shall be of the same type as required for gate valves (double disc C-500 or resilient seat C-509).

Tapping sleeves and valves shall be pressure tested and the valve operated prior to the tap being made.

The valve boxes shall be cast iron, three piece, screw type with drop cover marked “Sewer”. They shall be set vertically and properly adjusted so that the cover shall be in the same plane as the finished surface of the ground or street. The valve boxes shall conform to ASTM A48, Class 30. A valve operating nut extension shall be installed inside the valve box as is shown on the utility plans.

The quantity of tapping sleeves, valves and valve boxes, installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per each for "10” x 6” Tapping Sleeve, Valve, and Valve Box, 200# WP". Such prices and payments will be full compensation for all materials, excavation, labor, installation, sterilization, pressure testing, valve vault, backfilling, and incidentals necessary to complete the work as required.

May 10, 2004

Englehard Sanitary District of Hyde County, NC
Sanitary Sewer Force Main Pre-Approved Materials List

Precast Vaults:

Product: As manufactured by Stayright Tank Co., Carolina Precast Concrete, N.C. Products or approved equal and shall conform to dimensions shown on drawings.

Vault Covers & Gate Valve Boxes:

Product: As manufactured by US Foundary, Inc. Neenah Foundary, East Jordan Iron Works or approved equal and shall conform to dimensions shown on Drawings.

Gate Valves:

Product: As manufactured by Watts, Mueller, M & H or approved equal and shall conform to sizes shown on drawings.

Check Valves:

Product: As manufactured by Watts, Hammond Nibco or approved equal and shall conform to sizes shown on drawings.

February 27, 2004

PROJECT: B-3348
COUNTY: Hyde

PROJECT SPECIAL PROVISIONS
Utility

UTILITY BY OTHERS:

General:

The following utility companies have facilities that will be in conflict with the construction of this project:

A. Tideland EMC
B. Sprint

The conflicting facilities will be adjusted prior to the date of availability except where noted and are therefore listed in these special provisions for the benefit of the Contractor. All utility work listed herein will be done by the utility owners. All utilities are shown on the plans from the best available information.

The Contractor's attention is directed to Article 105.8 of the Standard Specifications.

Utilities Requiring Adjustment:

A. Tideland EMC

1. See "Utility by Others Plans" for utility conflicts.

B. Sprint

1. See "Utility by Others Plans" for utility conflicts.

B-3348 **Project Special Provisions** **Hyde County**
Erosion Control

Seeding And Mulching: (1)

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined by the Engineer. All rates are in pounds per acre (kilograms per hectare).

March 1 - August 31		September 1 - February 28	
50# (55kg)	Tall Fescue	50# (55kg)	Tall Fescue
5# (6kg)	Centipede	5# (6kg)	Centipede
25# (28kg)	Bermudagrass (hulled)	35# (40kg)	Bermudagrass (unhulled)
500# (560kg)	Fertilizer	500# (560kg)	Fertilizer
4000# (4500kg)	Limestone	4000# (4500kg)	Limestone

Slopes 2:1 and Steeper and Waste and Borrow Locations:

March 1 - August 31		September 1 - February 28	
75# (85kg)	Tall Fescue	75# (85kg)	Tall Fescue
25# (28kg)	Bermudagrass (hulled)	35# (40kg)	Bermudagrass (unhulled)
500# (560kg)	Fertilizer	500# (560kg)	Fertilizer
4000# (4500kg)	Limestone	4000# (4500kg)	Limestone

Approved Tall Fescue Cultivars:

Adventure	Adventure II	Amigo	Anthem
Apache	Apache II	Arid	Austin
Brookstone	Bonanza	Bonanza II	Chapel Hill
Chesapeake	Chieftain	Coronado	Crossfire II
Debutante	Duster	Falcon	Falcon II
Finelawn Petite	Finelawn	Finelawn I	Genesis
Grande	Guardian	Houndog	Jaguar
Jaguar III	Kentucky 31	Kitty Hawk	Monarch
Montauk	Mustang	Olympic	Pacer
Phoenix	Pixie	Pyramid	Rebel
Rebel Jr.	Rebel II	Renegade	Safari
Shenandoah	Tempo	Titan	Tomahawk
Trailblazer	Tribute	Vegas	Wolfpack
Wrangler			

Fertilizer shall be 10-20-20 analysis. Upon written approval of the Engineer, a different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis.

All areas seeded and mulched shall be tacked with asphalt. Crimping of straw in lieu of asphalt tack shall not be allowed on this project.

Crimping Straw Mulch:

Crimping shall be required on this project adjacent to any section of roadway where traffic is to be maintained or allowed during construction. In areas within six feet (2 meters) of the edge of pavement, straw is to be applied and then crimped. After the crimping operation is complete, an additional application of straw shall be applied and immediately tacked with a sufficient amount of undiluted emulsified asphalt.

Straw mulch shall be of sufficient length and quality to withstand the crimping operation.

Crimping equipment including power source shall be subject to the approval of the Engineer providing that maximum spacing of crimper blades shall not exceed 8 inches (200 mm).

Temporary Seeding:

Fertilizer shall be the same analysis as specified for "Seeding and Mulching" and applied at the rate of 400 pounds (450 kilograms) and seeded at the rate of 50 pounds per acre (55kg per hectare). Sweet Sudan Grass, German Millet or Browntop Millet shall be used in summer months and Rye Grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

Fertilizer Topdressing:

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 written approval of the Engineer, a different analysis of fertilizer may be used provided grade and shall be applied at the rate of 500 pounds per acre (560 kg per hectare). Upon the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis.

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre (560 kg per hectare). Upon written approval of the Engineer, a different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis.

Supplemental Seeding:

The kinds of seed and proportions shall be the same as specified for "Seeding and Mulching", with the exception that no centipede seed will be used in the seed mix for

supplemental seeding. The rate of application for supplemental seeding may vary from 25# to 75# per acre (28kg to 85kg per hectare). The actual rate per acre (hectare) will be determined by the Engineer prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre (hectare), total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clodbuster (ball and chain) may be used where degree of slope prevents the use of a sod seeder.

Mowing:

The minimum mowing height on this project shall be 4 inches (100 mm).

Sodding (Centipede):

General:

Centipede sod shall be installed according to details shown on plans, in areas directed by the Engineer.

The sodding shall be prepared in accordance with all applicable requirements of Section 1664 of the Standard Specifications and the following provisions:

The Contractor shall obtain a certificate or limited permit issued by The N.C. Department of Agriculture (1-800-206-9333) or (919-733-6932) stating that the sod has been found to be free of injurious plant pests.

Materials:

Only "approved sod" (trade designation) consisting of centipede grass shall be used. The sod, machine cut to the suppliers standard width and length, shall be 5/8 inch (16 mm) minimum, excluding top growth and thatch, at the time of cutting. Before cutting, the sod shall be uniformly mowed at a height of 1/2-3/4 inches (13-19 mm). Standard sod sections shall be sufficiently strong to support their own weight and retain their size and shape when suspended vertically from a firm grasp on the upper 10% of the section.

Sod shall be delivered on site within 24 hours of being cut and be covered by acceptable means during delivery. A certificate from the sod producer stating the date and time of sod cutting shall accompany the sod when it arrives at the project site.

Soil Preparation:

Remove litter and other debris. Mow and satisfactorily dispose of weeds or other unacceptable growth on the areas to be sodded.

Prior to beginning preparation of the soil to receive sod, all eroded, uneven and rough areas shall be contour graded and/or filled with soil as directed by the Engineer. The soil

shall be scarified or otherwise loosened to a depth of not less than 5 inches (130 mm) with a maximum width of 48 inches (1145 mm). Clods shall be broken and the top 2 to 3 inches (52 to 78 mm) of soil shall be worked into an acceptable soil bed by the use of soil pulverizers, drags, or harrows.

The Contractor shall be responsible for taking sufficient soil samples (at least one sample per planting area or mile, which ever is less) for testing by The Department Of Agriculture, Soil Testing Division, to determine the soil pH. Samples shall be taken in the presence of the Engineer. Results shall be received by the Engineer directly from the North Carolina Department of Agriculture and Consumer Services.

Limestone: Based on these results the Contractor shall add limestone, if required, to bring the soil pH to 5.0 to 6.0 (opt. 5.5). The amount of limestone to be applied will be approved by the Engineer prior to application. Application of limestone will be considered incidental to the work of "Sodding" and no direct payment will be made for such.

Sulfur: Based on these results the Contractor shall add sulfur if the pH is greater than 7.0, to bring the soil pH to 5.0 to 6.0 (opt. 5.5). The amount of sulfur to be applied will be approved by the Engineer prior to application. Application of sulfur will be considered incidental to the work of "Sodding" and no direct payment will be made for such.

After soil preparation, lime or sulfur (if necessary), shall be uniformly distributed by mechanical means using a 42 inch (1065 mm) drop type spreader and thoroughly mixed with the top five inches (130 mm) of the soil by discing, harrowing, or other approved methods.

The area shall then be harrowed, dragged, raked, or prepared by other approved methods which will give a lawn type finish. All trash, debris and stones larger than 1-1/2 inch (38 mm) in diameter or other obstructions that could interfere with the placing of the sod shall also be removed. The finished surface shall be moistened with water prior to placing the sod as directed by the Engineer.

Placement:

Sod handling and placement shall be a continuous process of cutting, transporting and installing including repairing seams and voids. Sod shall always be installed within 48 hours after being cut. Sod shall be watered within 2 hours of installation.

Any sod or portions of sod rejected by the Engineer during the initial placement shall be removed from the project and replaced with acceptable sod immediately. The Contractor shall cease any and all other placement of sod on the project until rejected sod has been replaced.

After sod has been placed, and staked where necessary, according to Section 1664, it shall then be rolled or tamped carefully and firmly by means acceptable to the Engineer

to ensure proper soil contact. If rolled, roller shall weigh 150#/ft (224kg/m) of roller width. Use of rubber tired equipment to roll shall not be allowed. Metal staples, 12 inches (305 mm) long unless otherwise approved, shall be made of 11 gauge (3.0 mm diameter) new steel wire so as not to bend when pinned or driven through the sod. Extreme care shall be taken to prevent the installed sod from being torn or displaced. After rolling or tamping the sod, it shall be watered uniformly and thoroughly with a minimum of 1 inch of water (5.6 gallons per square yard (25 liters per square meter) applied immediately after installation of sod. In no case shall the time interval between sod placement and initial watering exceed 2 hours. Water shall be placed to the required quantity through sequential passes to insure proper coverage and to prevent runoff. A minimum of ¼ inch (6.4 mm) should be placed on each pass.

Maintenance:

The Contractor shall be responsible for all watering and other maintenance required to maintain the livability and health of the sod from installation until completion of the 60 day observation period. Additional water shall be applied as needed and as directed by the Engineer to maintain the livability of the sod. Each additional watering event shall be a minimum of 0.5 inch of water (2.8 gallons per square yard (13 liters per square meter)) uniformly applied over the sodded area and may be placed in a series of passes to prevent runoff, with a minimum of ¼ inch (6.4 mm) on each pass.

Any sod or portions of sod rejected by the Engineer after placement but prior to beginning the observation period, shall be removed from the project and replaced with acceptable sod. Satisfactory replacement of sod shall begin within 10 days of notification. Failure to replace and repair damaged or dead sod as directed by the Engineer may result in sanctions under Article 108-7 or Article 108-8.

Observation Period:

The Contractor shall maintain responsibility for the sod for a 60 day observation period beginning upon the satisfactory completion and acceptance of all work required in the plans or as directed by the Engineer. The Contractor shall guarantee the sod under the payment and performance bond, refer to Article 109-10 in the standard specifications.

In the following counties, the 60 day observation period for sod installed between August 31 and March 1, shall not begin until March 1:

Alexander	**Catawba**	**Jackson**	**Surry**
Alleghany	**Cherokee**	**Macon**	**Swain**
Ashe	**Clay**	**Madison**	**Transylvania**
Avery	**Graham**	**McDowell**	**Watauga**
Buncombe	**Haywood**	**Mitchell**	**Wilkes**
Burke	**Henderson**	**Polk**	**Yadkin**
Caldwell	**Iredell**	**Rutherford**	**Yancey**

Installation of sod shall be permitted between August 31 and March 1, however, the Engineer shall not accept such work and begin the 60 day observation period prior to March 1. Upon satisfactory completion of work and acceptance by the Engineer, the 60 day observation period shall begin.

In all other counties, the 60 day observation period for sod installed between September 30 and March 1, shall not begin until March 1.

The Contractor shall be responsible year round for all watering and other maintenance required to maintain the livability of the sod from installation until final acceptance including monitoring the sod to ensure all watering and other maintenance is performed as required.

After the first 30 days of the 60 day observation period, the Contractor and Engineer shall meet to review the project and identify dead or damaged sod to be replaced. The Contractor, at no additional expense to the Department, shall satisfactorily replace any sod that is not in a living and healthy condition as determined by the Engineer. Replacement sod shall be furnished and installed in accordance with the same requirements as for initial sodding operation, except that the amounts of limestone, sulfur, and water may be readjusted as directed by the Engineer. Satisfactory replacement of sod shall begin within 10 days of notification. Failure to replace and repair damaged or dead sod as directed by the Engineer may result in sanctions under Article 108-7 or Article 108-8. Upon completion and acceptance of the sod repairs, the remaining 30 days of the observation period shall begin.

Acceptance:

At the end of the 60 day observation period, the sod furnished and installed under this contract must be in a living and healthy condition, as determined by the Engineer.

Acceptance of sod will be either at the end of the 60 day observation period or at final acceptance of the project, which ever is later.

Sodding shall be inspected by the Area Roadside Environmental Engineer to begin and end the 60 day observation period.

The sod shall be weed free at time of final acceptance.

Payment:

Payment and measurement shall be in accordance with Section 1664 of the Standard Specifications.

Specialized Hand Mowing:

The work covered by this section consists of specialized hand mowing around or under fixed objects, including but not limited to guardrails, signs, barriers and slopes in a method acceptable to the Engineer.

The work of specialized hand mowing shall be completed with mechanically powered trimmers, string trimmers, hand operated rotary mowers, or self-propelled mowers of sufficient size and quality to perform the work timely and efficiently.

The quantity of mowing to be performed will be affected by the actual conditions which occur during the construction of the project. The quantity of mowing may be increased, decreased or eliminated entirely at the direction of the Engineer. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work.

The quantity of specialized hand mowing to be paid for will be the actual number of man hours worked while hand mowing along the surface of the ground, at the direction of the Engineer. Where an area has been mowed more than once, at the direction of the Engineer, separate measurement will be made each time the area is mowed.

Payment will be made under:

Specialized Hand Mowing ..... HR

High Quality Waters:

Kitty Creek has been identified as high quality waters. This designation requires special procedures to be used for clearing and grubbing, temporary stream crossings, and grading operations within the "Environmentally Sensitive Areas" identified on the plans. This also requires special procedures to be used for seeding and mulching and staged seeding.

Seeding and Mulching:

Seeding and mulching shall be performed in accordance with Section 1660 of the Standard Specifications and vegetative cover sufficient to restrain erosion shall be installed immediately following grade establishment.

Seeding and mulching shall be performed on the areas disturbed by construction immediately following final grade establishment. No appreciable time shall lapse into the contract time without stabilization of slopes, ditches and other areas within the "High Quality Water Zone(s)" as indicated on the E.C. Plans.

Stage Seeding:

The work covered by this section shall consist of the establishment of a vegetative cover on cut and fill slopes as grading progresses. Seeding and mulching shall be done in

stages on cut and fill slopes which are greater than 20 feet (6 meters) in height or greater than 2 acres (0.8 hectares) in area. Each stage shall not exceed the limits stated above.

All work described above will be paid for at the contract unit prices established in the contract for the work involved. Additional payments will not be made for the requirements of this section as the cost for this work should be included in the contract unit prices for the work involved.

Environmentally Sensitive Areas:

Clearing and Grubbing:

In areas identified on the erosion control plans as "Environmentally Sensitive Areas", the Contractor may perform clearing operations, but not grubbing operations until immediately prior to beginning grading operations as described in Section 200, Article 200-1, in the Standard Specifications. The "Environmentally Sensitive Area" shall be defined as a 50 foot (16 meter) buffer zone on both sides of the stream, measured from top of streambank. Only clearing operations (not grubbing) shall be allowed in this buffer zone until immediately prior to beginning grading operations. Erosion control devices shall be installed immediately following the clearing operation.

Grading:

Once grading operations begin in identified "Environmentally Sensitive Area", work will progress in a continuous manner until complete. All construction within these areas must progress in a continuous manner such that each phase is complete and areas permanently stabilized prior to beginning of next phase. Failure on the part of the Contractor to complete any phase of construction in a continuous manner in "Environmentally Sensitive Areas" as specified will be just cause for the Engineer to direct the suspension of work in accordance with Section 108-7 of the Standard Specifications.

Temporary Stream Crossings:

Any crossing of streams within the limits of this project must be accomplished in accordance with Section 107-13(b) of the Standard Specifications.

Minimize Removal Of Vegetation

The Contractor shall minimize removal of vegetation at stream banks and disturbed areas within the project limits as directed by the Engineer.

Stockpile Areas

The Contractor shall install and maintain erosion control devices sufficient to contain sediment around any erodible material stockpile areas as directed by the Engineer.

Wetland Grass Planting:

Wetland grass planting will be planted in areas being graded for proposed wetlands, as denoted on the plans, and as directed by the Engineer. See the wetland grass planting detail sheet.

Seasonal limitations: Wetland grass planting shall be completed between April 15 and May 15. No planting shall be done when the temperature is below 32 degrees F (0 degrees C), when the soil to be excavated for the planting hole is frozen, or when the bottom of the plant holes are frozen.

The Contractor shall be responsible for taking sufficient soil samples for testing by The Department Of Agriculture, Soil Testing Division, to determine the soil pH and nutrient content. Samples shall be taken in the presence of the Engineer. Results shall be received by the Engineer directly from the North Carolina Department of Agriculture and Consumer Services. The Contractor shall be responsible for the addition of fertilizer and/or other soil amendments as needed to ensure liveability of the wetland grass planting.

Plant material shall be delivered in 2 inch (5 cm) peat pots in cell packs of approximately 50 plants per tray. Plant material shall consist of 3 to 5 stems per plant and shall be rooted through the sides and bottom of the peat pot.

The plant plugs shall be planted upright, not at an angle. Planting holes shall be dug large enough and deep enough to accommodate the entire root mass. The plant plugs shall be planted without twisted, balled, "J", or "U" roots. The plant plugs shall be planted with no roots exposed above the ground line. Soil shall be packed firmly around the entire root mass.

The Contractor shall supply and install a slow release, coated fertilizer (14-14-14) at the rate of one ounce (30 grams) per plant hole and shall be placed in the transplant hole prior to placing the plug. Other fertilizer formulations may be substituted, upon the written approval of the engineer.

The quantity of wetland grass planting to be paid for will be the actual number of acres (hectares) of land, measured along of the surface of ground, which has been acceptably planted with grasses in accordance with these specifications.

The quantity of wetland grass planting will be paid for at the contract unit price per acre (hectare) for "Wetland Grass Planting".

Payment will be made under:

Wetland Grass Planting .....ACR (HA)

Waste Areas And Borrow Sources:

Payment for temporary erosion control measures, except those made necessary by the Contractor's own negligence or for his own convenience, will be paid for at the appropriate contract unit price for the devices or measures utilized in borrow sources and waste areas.

No additional payment will be made for erosion control devices or permanent seeding and mulching in any commercial borrow or waste pit. All erosion and sediment control practices which may be required on a commercial borrow or waste site will be done at the Contractor's expense.

Safety Fence:

Description:

The work of "Safety Fence" shall consist of furnishing, installing and maintaining polyethylene or polypropylene fence along the outside riparian buffer, wetland, or water boundary as well as along the construction corridor within these boundaries to mark the areas that have been approved to infringe within the buffer, wetland or water, and as directed by the Engineer in accordance with the special provisions included herein. The fence shall be installed prior to any land disturbing activities.

Materials:

Fence Material:

Polyethylene or polypropylene fence shall be a preconstructed safety fence approved by the Engineer.

Posts:

Either wood posts or steel posts may be used. Wood posts shall be nominal 2" x 4" (51 mm x 102 mm) or 4" x 4" (102 mm x 102 mm), lengths as required, structural light framing, grade No. 2, Southern Pine. Steel posts shall be at least 5 feet (1.6 m) in length, approximately 1 3/8" (35 mm) wide measured parallel to the fence, and have a minimum weight of 1.25 lb./ft. (1.9 kg/m) of length. The steel post shall be equipped with an anchor plate having a minimum area of 14 square inches (90 square centimeters).

Clearing and Grading:

No additional clearing and grubbing is anticipated for the installation of this fence; however, if any clearing and grubbing is required, it will be the minimum required for the installation of the safety fence. Such clearing shall include satisfactory removal and disposal of all trees, brush, stumps and other objectionable material.

The fence shall be erected to conform to the general contour of the ground. When determined necessary by the Engineer, minor grading along the fence line shall be done to meet this requirement provided no obstructions to proper drainage are created.

Installation:

Posts shall be set and maintained in a vertical position and may be hand set or set with a post driver. If hand set, all backfill material shall be thoroughly tamped. If power driven, wood posts may be sharpened to a dull point. Posts damaged by power driving shall be removed and replaced prior to final acceptance. The tops of all wood posts shall be cut at a 30 degree angle. The wood posts may, at the option of the Contractor, be cut at this angle either before or after the posts are erected.

The fence fabric shall be attached to the wood posts with one 2" (51 mm) galvanized wire staple across each cable or to the steel posts with wire or other acceptable means.

The Contractor shall be required to maintain the safety fence in a satisfactory condition for the duration of the project as determined by the Engineer.

Method of Measurement:

The quantity of safety fence to be paid for shall be the actual number of linear feet (meter) of "Safety Fence", installed in place and accepted. No direct payment will be made for post and post bracing. Cost shall be included in the cost of the fence per linear foot (meter).

Basis of Payment:

The quantity of safety fence measured as provided above will be paid for at the contract unit price per linear foot (meter) of safety fence. Such payment will be full compensation for the work as described in the above paragraphs, including but not limited to clearing and grading, furnishing and installing fence fabric with necessary posts and post bracing, staples, tie wires, tools, equipment and incidentals necessary to complete the work.

Payment will be made under:

Safety Fence.....LF (M)

Gravel Construction Entrance:

Description:

The work covered by this section consists of furnishing, installing, and maintaining and removing any and all material required for the construction of a Gravel Construction Entrance.

Materials:

The filter fabric shall meet the requirements of Section 1056 for Type 2 Fabric.

Stone shall be Class A Stone and shall meet the requirements of Section 1042 for Stone for Erosion Control, Class A.

Construction:

The Contractor shall install a Gravel Construction Entrance in accordance with the details in the plans and at locations as directed by the Engineer.

Method Of Measurement:

Gravel Construction Entrance will not be measured for payment under this section.

Basis Of Payment:

Payment for installation of Filter Fabric shall be paid for at the contract unit price per square yard (square meter) "Filter Fabric for Drainage".

Payment for installation of Class A Stone shall be paid for at the contract unit price per ton (metric ton) "Stone for Erosion Control, Class A".

Such price and payment shall be considered full compensation for all work covered by this provision including all materials, construction, maintenance, and removal of Gravel Construction Entrance as directed by the Engineer.

Floating Turbidity Curtain:

The Contractor shall install a floating turbidity curtain to deter silt suspension and movement of silt particles during construction. The curtain shall be constructed at locations as directed by the Engineer.

The curtain material shall be made of a tightly woven nylon, plastic or other non-deteriorating material meeting the following specifications:

Property	value
Grab tensile strength	*md-370 lbs (1.65 kn) *cd-250 lbs (1.11 Kn)
Mullen burst stength	480 psi (3307 kpa)
Trapezoid tear strength	*md-100 lbs (0.45 kn) *cd-60 lbs (0.27 Kn)
Apparent opening size	70 us standard sieve (0.210 mm)
Percent open area	4% permittivity 0.28 sec-1

*md - machine direction
*cd - cross machine direction

In the event that more than one width of fabric is required, a six inch (150 mm) overlap of the material shall also be required.

The curtain material shall be supported by a flotation material having over 29 lbs/ft (43 kg/m) buoyancy. The floating curtain shall have a 5/16 inch (7.8 mm) galvanized chain as a ballast, and dual 5/16 inch (7.8 mm) galvanized wire ropes with a heavy vinyl coating as load lines.

The floating turbidity curtain shall be maintained in a satisfactory condition by the Contractor until its removal is requested by the Engineer.

The quantity of floating turbidity curtain to be paid for under this item shall be the actual number of square yards (square meters) of curtain installed as specified and accepted.

The quantity of floating turbidity curtain as measured above will be paid for at the contract unit price per square yard (square meter) for "Floating Turbidity Curtain". Such price and payment will be full compensation for the work as described in the above paragraphs including but not limited to furnishing all materials, tools, equipment, and all incidentals necessary to complete the work.

Special Sediment Control Fence:

Description:

The work covered by this section consists of the construction, maintenance, and removal of special sediment control fence. Place special sediment control fence as shown on the plans or as directed by the Engineer.

Materials:

(A) Posts:

Either wood or steel posts may be used. Wood posts shall be a minimum of 6 feet long (1.8 m), at least 3 inches (75 mm) in diameter, and straight enough to provide a fence without noticeable misalignment. Steel posts shall be at least 5 feet (1.5 m) in length, approximately 1 3/8 inches (35 mm) wide measured parallel to the fence, and have a minimum weight of 1.25 lb/ft (1.86 kg/m) of length. The post shall be equipped with an anchor plate having a minimum area of 14.0 square inches (9000 square millimeters), and shall have a means of retaining wire in the desired position without displacement.

(B) 1/4 inch (6.4mm) Hardware Cloth:

Hardware cloth shall have 1/4 inch (6.4mm) openings constructed from #24 gauge wire. Install hardware cloth according to the detail shown on the plans.

(C) Sediment Control Stone:

Sediment control stone shall meet the requirements of Section 1005. Install stone according to the detail shown on the plans.

Maintenance and Removal:

The Contractor shall maintain the special sediment control fence until the project is accepted or until the fence is removed, and shall remove and dispose of silt accumulations at the fence when so directed by the Engineer in accordance with Section 1630.

Method of Measurement:

The quantity of 1/4 inch (6.4mm) hardware cloth to be paid for will be the actual number of linear feet (meters) measured along the ground, which has been completed and accepted.

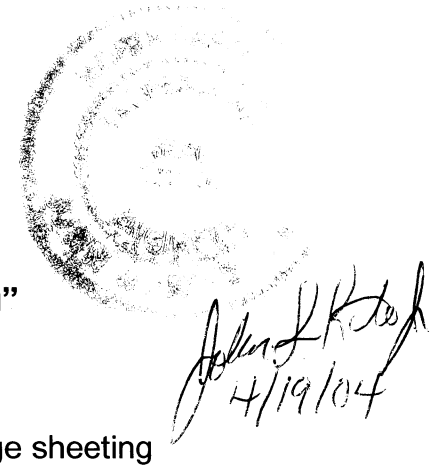
The quantity of sediment control stone will be measured according to Article 1610-4.

Basis of Payment:

Payment for special sediment control fence will be as follows:

1/4 inch (6.4mm) Hardware Cloth .....LF (M)
Sediment Control Stone .....TON (MT)

T.I.P.: B-3348
Date: 04-16-04
Revised Date:



PROJECT SPECIAL PROVISIONS
"Work Zone Signing- Fluorescent Orange sheeting"

DESCRIPTION.

Furnish, install and maintain work zone signs with fluorescent orange sheeting Type VII (Seven) or higher. All work zone signing (stationary, barricade mounted and portable) must meet this requirement. See Attached Drawing.

In addition, temporarily cover and uncover, relocate, and remove work zone signs (stationary, barricade mounted and portable) in accordance with the plans and specifications. Use work zone signs (portable) only with portable work zone sign stands specifically designed for one another. Portable work zone signs may be roll-up or approved composite.

MATERIALS.

(A) General:

Sign retroreflective sheeting requirements for Types VII (seven), VIII (eight) and IX (nine) are described in Section 1093 of the 2002 Standard Specifications. Cover the entire sign face with reflective sheeting. Apply the reflective sheeting in a workmanlike manner so that there are no bubbles or wrinkles in the material.

1. Work Zone Signs (Stationary):

   Use Type VII (seven), VIII (eight) or IX (nine) (prismatic) fluorescent orange retroreflective sheeting or better. Construct sign backing of a rigid material such as aluminum or approved composite material. Signs and sign supports must meet or exceed NCHRP 350 requirements for Breakaway Devices.

2. Work Zone Signs (Barricade Mounted):

   Use Type VII (seven), VIII (eight) or IX (nine) (prismatic) fluorescent orange retroreflective sheeting or better. Sign and barricade assembly must meet or exceed the requirements of NCHRP 350 for Work Zone Category II Devices.

3. Work Zone Signs (Portable):

   Use Type VII (seven), VIII (eight) or IX (nine) (prismatic) fluorescent orange retroreflective sheeting or better without adhesive backing for roll-up portable work zone signs. Signs and sign stand assemblies must meet

or exceed the requirements of NCHRP 350 for Work Zone Category II Devices.

Use Type VII (seven), VIII (eight) or IX (nine) (prismatic) fluorescent orange retroreflective sheeting or better for aluminum or composite portable work zone signs. Signs and sign stand assemblies must meet or exceed the requirements of NCHRP 350 for Work Zone Category II Devices.

CONSTRUCTION METHODS.

The provision of Article 1110-3 of the 2002 Standard Specifications will apply to this special provision.

MAINTENANCE

Provide continuous and expeditious maintenance of all work zone signing throughout the life of the contract.

Prior to construction, submit for approval, a proposed maintenance schedule and maintenance checklist for all traffic control devices.

The scheduled maintenance and device inspections must be performed. Maintenance activities include the repair or replacement of work zone signs which have damaged torn sheeting, bent or deformed sign backing, deformed sign supports, displaced by traffic or other means, or deteriorated beyond effectiveness. Specific maintenance responsibilities include but are not limited to: replacement due to loss of retroreflectivity, repair or defaced sheeting and legend, replacement of broken supports, repositioning of leaning signs, cleaning of dirty signs, replacement of stolen or vandalized signs, and replacement of displaced signs.

METHOD OF MEASUREMENT

(A) Work Zone Signing – Fluorescent Orange Sheeting (Stationary):

The quantity of work zone signs (stationary) to be paid for will be the actual number of square feet (square meters) of sign panels which have been satisfactorily installed at each required location and accepted. Where a particular sign is used at more than one location, measurement will be made at each location.

T.I.P.: B-3348
Date: 04-16-04
Revised Date:

(B) Work Zone Signing- Fluorescent Orange Sheeting (Barricade Mounted):

The quantity of work zone signs (barricade mounted) to be paid for will be the maximum number of square feet (square meters) of sign panels which have been satisfactorily installed on barricades and accepted. Payment will be made for the initial installation only. Relocation of signs will be considered incidental to the measurement of the quantity of signs.

(C) Work Zone Signing- Fluorescent Orange Sheeting (Portable):

The quantity of work zone signs (portable) to be paid for will be the maximum number of square feet (square meters) of sign panels which have been satisfactorily installed and accepted. Payment will be made for the initial installation only. Relocation of signs will be considered incidental to the measurement of the quantity of signs.

BASIS OF PAYMENT.

The quantity of work zone signing- fluorescent orange sheeting (stationary, barricade mounted and portable) as measured above will be paid for at the contract unit price per square foot (square meter) for "Work Zone Signing- Fluorescent Orange Sheeting (TYPE)".

No direct payment will be made for stationary work zone sign supports or portable work zone sign stands. All stationary work zone sign supports or portable work zone sign stands are considered incidental to the work of providing work zone signs.

Payment will be made under:

Work Zone Signs- Fluorescent Orange Sheeting (Stationary)	Square Foot (Square meter)
Work Zone Signs- Fluorescent Orange Sheeting (Barricade Mounted)	Square Foot (Square meter)
Work Zone Signs-Fluorescent Orange Sheeting (Portable)	Square Foot (Square meter)

TIP # B-3348
Date:4/19/04
Revised Date:

WATER FILLED BARRIER

DESCRIPTION.

Furnish, install, secure, maintain, remove, and reset Water Filled Barrier. In addition, provide an environmentally safe anti-freezing agent when required, in accordance with the plans and specifications.

MATERIALS.

(A) General:

Provide Water Filled Barrier that meets or exceed the requirements of NCHRP 350 Test Level II for work zones which have a posted speed limit of 45 mph (72 km/h) or less. Provide Water Filled Barrier that acts as it's own free standing, non-redirective end treatment

(B) Material Qualifications:

Use Water Filled Barrier which is on the North Carolina Department of Transportation's Approved Products List or is Traffic-qualified by the Traffic Control Section. For more information on the Traffic-qualification process, contact the Traffic Control Section at Century Center Building B, 1020 Birch Ridge Dr., Raleigh, NC, 27610 (919) 250-4151, or see the approved product list on NCDOT web site at: "www.doh.dot.state.nc.us/preconstruct/traffic/congestion/tc/".

(C) Historical Performance:

Historical performance of the Water Filled Barrier will be used in determining future use of the material by the NCDOT, even if the Water Filled Barrier has been traffic-qualified. Poor past or poor current performance of Water Filled Barrier at any site, whether or not related to a specific contract may be grounds for non-acceptance of a product on any project under contract.

CONSTRUCTION METHODS.

Place and install Water Filled Barrier only on roadways with posted speed limits of 45 mph (72 km/h) or less.

Place and install Water Filled Barrier units as shown in the plans and per manufacturer specifications.

Use environmentally safe anti-freezing agent in the water per manufacturer specifications and recover agent when the barrier is drained.

Do not drain Water Filled Barrier into or across an existing travel lane. Provide barrier units that are capable of being lifted and moved when filled if draining is not possible.

Furnish delineators for Water Filled Barrier which meet the requirements of Section 1088-2 and Section 1170-3,(E) of the 2002 Standard Specifications.

MAINTENANCE.

Maintain Water Filled Barrier in accordance with Section 1105-4 of the 2002 Standard Specifications.

METHOD OF MEASUREMENT.

The method of measurement will be in accordance with Section 1170-05 of the 2002 Standard Specifications.

There will be no measurement made of barrier delineators as they are considered incidental to the other pay items in this special provision.

BASIS OF PAYMENT.

The quantity of Water Filled Barrier, measured as provided above, will be paid at the contract unit price per linear foot (linear meter) for "Water Filled Barrier".

The quantity of resetting Water Filled Barrier, measured as provided above, will be paid at the contract unit price per linear foot (linear meter) for "Reset Water Filled Barrier".

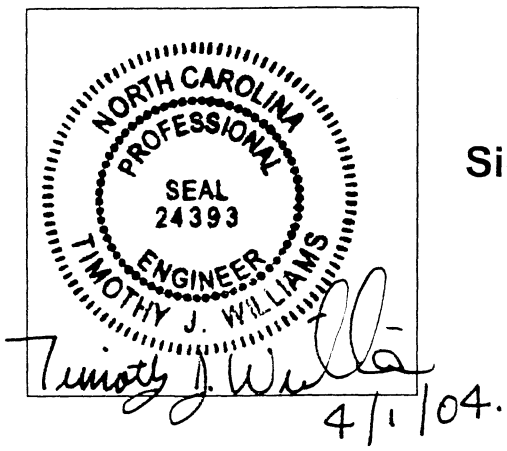
There will be no direct payment for barrier delineators as they are considered incidental to the other pay items in this special provision.

Payment will be made under:

Water Filled Barrier ..... Linear Foot (Linear Meter)

Reset Water Filled Barrier ..... Linear Foot (Linear Meter)

81



Project Special Provisions

(Version 02.13)

Signals and Traffic Management Systems

Prepared By: TS Brown
31-Mar-04

Contents

1. 2002 STANDARD SPECIFICATIONS FOR ROADS & STRUCTURES – SECTION 1098 REVISIONS 2
1.1. GENERAL REQUIREMENTS (1098-1) 2
1.2. SIGNAL HEADS (1098-2) 2
1.3. WOOD POLES (1098-6) 11
1.4. LOOP LEAD-IN CABLE (1098-9) 11
1.5. TYPE 170E CABINETS (1098-19) 11
1.6. TYPE 2070L CONTROLLERS (1098-20) 14
2. 2002 STANDARD SPECIFICATIONS FOR ROADS & STRUCTURES – SECTION 1700 REVISIONS 15
2.1. GENERAL REQUIREMENTS (1700) 15
2.2. WOOD POLES (1720) 15
2.3. RISER ASSEMBLIES (1722) 16
2.4. LOOP LEAD-IN CABLE (1726) 16
2.5. CONTROLLERS WITH CABINETS (1751) 16
3. TEMPORARY TRAFFIC SIGNAL INSTALLATIONS 17
3.1. DESCRIPTION 17
3.2. CONSTRUCTION METHODS 17
3.3. BASIS OF PAYMENT 17

1. 2002 STANDARD SPECIFICATIONS FOR ROADS & STRUCTURES – SECTION 1098 REVISIONS

The 2002 Standard Specifications are revised as follows:

1.1. General Requirements (1098-1)

Page 10-220, Subarticle 1098-1(A)

In the last paragraph, sentence 1, revise "by the date of advertisement of the project" to "by the date of equipment installation."

Pages 10-222,3 Subarticle 1098-1(H)

Replace paragraphs 2, 3, and 4 with the following paragraphs:

Except for grounding conductors, provide signal cable conductors of size Number 16 AWG that are fabricated from stranded copper. **Number 16 AWG cable can only be used with an all LED traffic signal intersection.** Repairs to a non-LED traffic signal intersection must use Number 14 AWG cable.

Provide either 0.05 x 0.30 inch (1.3 x 7.6 mm) aluminum wrapping tape or 0.06 inch (1.5 mm) stainless steel lashing wire for the purpose of lashing cables, except fiber-optic communications cables, to a messenger cable. Use 0.045-inch (1.14-mm) stainless steel lashing wire for the aerial installation of fiber-optic communications cable to messenger cable.

1.2. Signal Heads (1098-2)

Page 10-223, Subarticle 1098-2(A)

In paragraph 5, sentence 4, revise "1 3/8 inch (32 mm) vertical conduit entrance hubs" to "1 1/4 inch (32 mm) vertical conduit entrance hubs" and revise "1 5/8 inch (40 mm) horizontal hubs" to "1 1/2 inch (40 mm) horizontal hubs."

In the last paragraph, sentence 3, revise "2/5 x 3/4 inch (9.5 mm x 19.1 mm) square head bolts" to "3/8 x 3/4 inch (9.5 mm x 19.1 mm) square head bolts."

Page 10-225, Subarticle 1098-2(C)

Replace paragraphs 2 and 3 with the following paragraphs:

Unless otherwise required by the plans, provide single-section pedestrian heads with 6 inch (150 mm) minimum deep traditional visors that prevent the sun phantom illumination of the indication.

Where required by the plans, provide two-section pedestrian signal heads with traditional three-sided, rectangular visors 12 inches (300 mm) long.

Replace the last paragraph with the following:

Provide lead-in cable that complies with the loop lead-in cable section of these project special provisions.

Pages 10-225-227, Subarticle 1098-2(E) [**Light Emitting Diode (LED) Sections**]

Replace the entire subarticle with the following two subarticles:

(1) Vehicular

Provide light emitting diode (LED) traffic signal modules (hereafter referred to as modules) that consist of an assembly that utilizes LEDs as the light source in lieu of an incandescent lamp for use in traffic signal sections. Use LEDs that are aluminum indium gallium phosphorus (AlInGaP) technology for red and yellow indications and indium gallium nitride (InGaN) for green indications. Install the ultra bright type LEDs that are rated for 100,000 hours of continuous operation from -40°C to +74°C (-40°F to +165°F). Design modules to have a minimum useful life of 60 months, and to meet all parameters of this specification during this period of useful life.

Ensure, unless otherwise stated in these specifications, that each module meets or exceeds the requirements of the Interim Purchase Specification of the ITE VTCSH part 2 (Light Emitting Diode (LED) Vehicular Traffic Signal Modules (hereafter referred to as VTCSH-2). Arrow displays shall meet or exceed the electrical and environmental operating requirements of VTCSH-2 sections 3 and 5, chromaticity requirements of section 4.2, and the requirements of sections 6.3 (except 6.3.2) and 6.4 (except 6.4.2).

Provide modules that meet the requirements of Table 1098-1. Design the modules to operate from a 60 ±3 HZ AC line voltage ranging from 80 volts to 135 volts. Ensure that fluctuations of line voltage have no visible effect on the luminous intensity of the indications. Design the module to have a normal operating voltage of 120 VAC, and measure all parameters at this voltage.

Table 1098-1
Maximum Power Consumption (in Watts) at 25°C (77°F)

	Red	Yellow	Green
300 mm circular	17	34	24
200 mm circular	10	16	12
300 mm arrow	9	10	11

Certify that the module has a power factor of 0.90 or greater, and that total harmonic distortion (THD) (current and voltage) induced into an AC power line by the module does not exceed 20 percent for modules with power ratings above 15W, and 40 percent for modules with power ratings of 15W or less. Design the module's onboard circuitry to include voltage surge protection to withstand high repetition noise transients as stated in Section 2.1.6 of NEMA Standard TS-2, 1992. Ensure all wiring meets the requirements of Section 13.02 of the ITE Publication: Equipment and Material Standards, VTCSH-2. Provide spade terminals appropriate to the lead wires and sized for a #10 screw connection to the existing terminal block in a standard signal head.

Ensure that the module is compatible with signal load switches and conflict monitors. Design the module to provide sufficient current draw to ensure proper load switch operation while the voltage is varied from a regulated 80 Vrms to 135 Vrms. Design off-state for green and yellow modules to be 30Vrms or greater, and on-state to be 40 Vrms or greater. Design the voltage decay to 10 Vrms or less to be 100 milliseconds or less for green and yellow modules. Ensure that the control circuitry prevents current flow through the LEDs in the off state to avoid a false indication.

Design all modules to meet existing NCDOT monitor specifications for each of the following types of signal monitors: NEMA TS-1 conflict monitors (including so-called NEMA plus

features such as dual indication detection and short yellow time detection); NEMA TS-2 Malfunction Management Units (MMU); and 170 cabinet Type 210ECL and 2010ECL conflict monitors (including red monitoring and so-called plus features such as dual indication detection and short yellow time detection).

Ensure that the modules and associated onboard circuitry meet Class A emission limits referred to in Federal Communications Commission (FCC) Title 47, Subpart B, Section 15 regulations concerning the emission of electronic noise.

Provide modules that meet the requirements of Tables 1098-2, 3, and 4. Test all ball modules for luminous intensity at 25°C (77°F) to meet 115% of values in tables 1098-2 and 4. Design and certify the modules to meet or exceed the maintained minimum luminous intensity values throughout the warranty period based on normal use in a traffic signal operation over the operating temperature range. Test the Red and Green modules for maintained luminous intensity (Tables 1098-2, 3, and 4) at 74°C (165°F) (ITE 6.4.2.2). Use LEDs that conform to the chromaticity requirements of VTCSH-2, Section 8.04 throughout the warranty period over the operating temperature range. Make chromaticity coordinate compliance measurements at 25°C (77°F).

Table 1098-2
Specification for 12 inch (300 mm) Extended View Signals

Minimum Luminous Intensity Values (In Candelas)				
Expanded View Vertical Angle	Horizontal Angle (Left/Right)	RED	YELLOW	GREEN
+/-2.5	2.5	339	678	678
	7.5	251	501	501
	12.5	141	283	283
	17.5	77	154	154
+/-7.5	2.5	226	452	452
	7.5	202	404	404
	12.5	145	291	291
	17.5	89	178	178
	22.5	38	77	77
	27.5	16	32	32
+/-12.5	2.5	50	101	101
	7.5	48	97	97
	12.5	44	89	89
	17.5	34	69	69
	22.5	22	44	44
	27.5	16	32	32
+/-17.5	2.5	22	44	44
	7.5	22	44	44
	12.5	22	44	44
	17.5	22	44	44
	(Not Extended View) 22.5	20	41	41
	(Not Extended View) 27.5	16	32	32
+/-22.5	2.5	20	40	40
	17.5	20	40	40

Notes
1. Design signal modules to meet these requirements as a minimum throughout the warranty period.
2. Design signal modules to have a minimum initial intensity equal to 115% of Table 2 at 25°C.
3. Independent laboratory test reports are required to validate the initial intensity.

Table 1098-3
Minimum Initial and maintained Intensities for Arrow Indications (in cd/m2)

	Red	Yellow	Green
Arrow Indication	5,500	11,000	11,000

Table 1098-4
Specification for 8 inch (200 mm) Extended View Signals

Minimum Luminous Intensity Values (In Candelas)for circular indications				
Expanded View Vertical Angle	Horizontal Angle (Left/Right)	RED	YELLOW	GREEN
+/-2.5	2.5	133	267	267
	7.5	97	194	194
	12.5	57	113	113
	17.5	25	48	48
+/-7.5	2.5	101	202	202
	7.5	89	178	178
	12.5	65	129	129
	17.5	41	81	81
	22.5	18	37	37
	27.5	10	20	20
+/-12.5	2.5	37	73	73
	7.5	32	65	65
	12.5	28	57	57
	17.5	20	41	41
	22.5	12	25	25
	27.5	9	16	16
+/-17.5	2.5	16	32	32
	7.5	14	28	28
	12.5	10	20	20
	17.5	9	16	16
	(Not Extended View) 22.5	6	12	12
	(Not Extended View) 27.5	4	9	9

Notes

4. Design signal modules to meet these requirements as a minimum throughout the warranty period.
5. Design signal modules to have a minimum initial intensity equal to 115% of Table 4 at 25°C.
6. Independent laboratory test reports are required to validate the initial intensity.

Table 1098-5
Chromaticity Standards (CIE Chart)

Red	Y: not greater than 0.308, or less than 0.998 - x
Yellow	Y: not less than 0.411, nor less than 0.995 - x, nor less than 0.452
Green	Y: Not less than 0.506 -.519x, nor less than 0.150 + 1.068x, nor more than 0.730 - x

Design the modules as retrofit replacements for installation into standard incandescent traffic sections that do not contain the incandescent lens, reflector assembly, lamp socket and lens gasket. Ensure that installation does not require special tools or physical modification for the

existing fixture other than the removal of the incandescent lens, reflector assembly, lamp socket, and lens gasket.

Provide modules that are rated for use in the operating temperature range of –40°C (-40°F) to +74°C (+165°F). Ensure that the modules (except yellow) meet all specifications throughout this range. Fabricate the module to protect the onboard circuitry against dust and moisture intrusion per the requirements of NEMA Standard 250-1991 for Type 4 enclosures to protect all internal components.

Design the module to be a single, self-contained device with the circuit board and power supply for the module inside and integral to the unit.

Design the assembly and manufacturing process for the module to ensure all internal components are adequately supported to withstand mechanical shock and vibration from high winds and other sources. Wire the individual LEDs such that a catastrophic loss or the failure of one LED will result in the loss of not more than 20 percent of the signal module light output. Solder the LEDs to the circuit board.

Fabricate the lens and signal module from material that conforms to ASTM specifications. Ensure enclosures containing either the power supply or electronic components of the module are made of UL94VO flame retardant materials. The lens of the signal module is excluded from this requirement.

Permanently mark the manufacturer's name, trademark, model number, serial number, date of manufacture (month & year), and lot number as identification on the back of the module.

Permanently mark the following operating characteristics on the back of the module: rated voltage and rated power in watts and volt-amperes.

If a specific mounting orientation is required, provide permanent markings consisting of an up arrow, or the word "UP" or "TOP" for correct indexing and orientation within the signal housing.

Provide a lens that is integral to the unit with a smooth outer surface and UV stabilized to withstand ultraviolet exposure for a minimum period of 60 months without exhibiting evidence of deterioration. Coat the front of a polycarbonate lens to make it more abrasion resistant. Seal the lens to the module to prevent moisture and dust from entering the module.

Tint the red and yellow lens to match the wavelength (chromaticity) of the LED. Provide a green lens that is either colorless or tinted to match the wavelength (chromaticity) of the LED.

For 12-inch (300-mm) arrow modules, ensure that the module meets specifications stated in Section 9.01 of the ITE VTCSH for arrow indications. Design arrow displays to be solid LEDs (spread evenly across the illuminated portion of the arrow or other designs), not outlines. **Determine the luminous intensity using the CALTRANS 606 method or similar procedure.**

Provide test results for ball modules from an independent testing laboratory showing wattage and compliance with ITE VTCSH-2 specifications 6.4.2, 6.4.4.1, 6.4.4.2, 6.4.4.3, 6.4.5, and 6.4.6.1 as a minimum. Ensure the 6.4.2.1 test meets the requirements of Tables 1098-2 and 4 of this specification. The 6.4.2.2 test is for Red and Green only. Ensure that the LED signal modules tested are typical, average production units.

Burn In - Energize the sample module(s) (a sample of one module minimum) for a minimum of 24 hours, at 100 percent on-time duty cycle, at a temperature of +74°C (+165°F) before

performing any qualification testing. Any failure of the module, which renders the unit non-compliant with the specification after burn-in, shall be cause for rejection. All specifications will be measured including, but not limited to:

(a) **Photometric (Rated Initial Luminous Intensity)** - Measure at +25°C (+77°F). Measure luminous intensity for red and green modules upon the completion of a 30 minute 100 percent on-time duty cycle at the rated voltage. **Measure luminous intensity for yellow modules immediately upon energizing at the rated voltage.**

(b) **Chromaticity** (Color) - Measure at +25°C (+77°F). Measure chromaticity for red and green modules upon the completion of a 30 minute 100 percent on-time duty cycle at the rated voltage. Measure chromaticity for yellow modules immediately upon energizing at the rated voltage.

(c) **Electrical** - Measure all specified parameters for quality comparison of production quality assurance on production modules. (rated power, etc)

Equipment Compatibility - In addition to the 6.4.4.5 test of modules for compatibility with controllers, conflict monitors, and load switches, perform the following test, and certify the results. Connect each signal module to the output of a standard load switch connected to a variable AC voltage supply (95 to 135 VAC). With the load switch "off," vary the AC voltage from 95 Vrms to 135 Vrms, and measure the drop across the module. Readings greater than 15 Vrms are unacceptable.

NCDOT evaluates and approves all LED Traffic Signal modules for the QPL by a standard visual inspection and blind operational survey, a compatibility test, current flow, and other random tests, in addition to reviewing the lab reports and documentation from the manufacturer. The tests are conducted at the Traffic Electronics Center in Raleigh. Each 12-inch (300-mm) ball module shall be visible at 450 feet (135 meters) during sway conditions (extended view) until obscured by the visor. Each 8-inch ball (200-mm) and 12-inch (300-mm) arrow module shall be visible at 300 feet (90 meters) during sway conditions (extended view) until obscured by the visor. Sufficient luminance during the extended views will be determined during this blind survey evaluation.

In addition to meeting the performance requirements for the minimum period of 60 months, provide a written warranty against defects in materials and workmanship for the modules for a period of 60 months after shipment acceptance of the modules. Replacement modules shall be provided within 30 days of receipt of modules that have failed at no cost to the State. Provide warranty documentation to the Department prior to QPL acceptance. Provide luminous intensity testing at an independent lab, to determine degradation, for two modules of each color provided by NCDOT at the end of two and four years of operation.

Provide testing at an independent laboratory for a designated module to be tested for maintained luminous intensity at 25°C (77°F) once each year during the five year warranty period.

(2) Pedestrian

Design the LED pedestrian traffic signal modules for installation into standard pedestrian traffic signal sections that do not contain the incandescent signal section reflector, lens, eggcrate visor, gasket, or socket. Provide a clear 0.25-inch (6.4-mm), non-glare, mat finish lens with a smooth outer surface and UV stabilized to withstand ultraviolet exposure for a minimum period of 60 months without exhibiting evidence of deterioration. Coat the front surface of a

polycarbonate lens to make it more abrasion resistant. Ensure that the lens has light transmission properties equal to or greater than 80%.

Ensure installation of all modules requires no physical modification of the existing fixture other than the removal of the incandescent signal section reflector, lens, eggcrate visor and socket where applicable.

Design the countdown display as a double row of LEDs, and ensure the countdown display blanks-out during the initial cycle while it records the countdown time. Ensure that the countdown display is operational only during the flashing don't walk, clearance interval. Blank-out the countdown indication after it reaches zero until the beginning of the next don't walk indication, and design the controlling circuitry to prevent the timer from being triggered during the solid hand indication.

Design the man and hand to be a solid display, which meets the minimum requirements of "The Equipment and Materials Standards" of the Institute of Transportation Engineers (ITE) Chapter 3, Table 1 *Symbol Message*. Wire the LEDs such that a catastrophic loss or failure of one or more LEDs will result in the loss of not more than five percent of the signal module light output.

Ensure that the power consumption for the modules is equal to or less than the following in watts, and that the modules have EPA Energy Star compliance ratings, if applicable to that shape, size and color.

TEMPERATURE	77°F (25°C)	165°F (74°C)
HAND	10	12
MAN	9	12
COUNTDOWN	9	12

Provide 16-inch (400-mm) displays, where required by plan or bid document, that have the hand/man overlay on the left and the countdown on the right. Ensure the hand/man meets the dimension requirements cited in Chapter 3, Table 1 *Symbol Message* for Class 3 displays. Ensure that the countdown number display is at least 7 inches high by 6 inches wide. Configure the signal head with a sufficient number of LEDs to provide an average luminous intensity of at least 342 candela per square feet (3750 candela per square meter) of lighting surface for the "RAISED HAND" and "COUNTDOWN", and 483 candela per square feet (5300 candela per square meter) of lighting surface for the "WALKING PERSON". Ensure they meet this average luminous intensity throughout the warranty period over the operating temperature range.

Provide 12 inch (300 mm) displays, where required by plan or bid document, that meet the dimension requirements cited in Chapter 3, Table 1 *Symbol Message* for Class 2 displays. Furnish three types of modules, the solid hand/man module as an overlay, the solid hand module, and the solid man module. Configure the signal head with a sufficient number of LEDs to provide an average luminous intensity of at least 342 candela per square feet (3750 candela per square meter) of lighting surface for the "RAISED HAND" and "COUNTDOWN", and 483 candela per square feet (5300 candela per square meter) of lighting surface for the "WALKING PERSON". Ensure they meet this average luminous intensity throughout the warranty period over the operating temperature range.

Design all modules to operate using a standard 3 - wire field installation. Provide lead wires that are eighteen gauge (18AWG) minimum copper conductors with 221 degree F (105 degree C) insulation. Ensure that lead wires are a minimum of 30 inches (760 mm) long with NEMA "spade" terminals that are appropriate to the lead wires and sized for a #10 screw connection to the existing terminal block in the signal head. Solder the LEDs to the circuit board.

Ensure that modules are compatible with signal load switches and conflict monitors. Design the module to provide sufficient current draw to ensure proper load switch operation while the voltage is varied from a regulated 80Vrms to 135Vrms. Provide control circuitry to prevent current flow through the LEDs in the off state to avoid a false indication. Design all modules to meet existing NCDOT monitor specifications for each of the following types of signal monitors: NEMA TS-1 conflict monitors (including so-called NEMA plus features such as dual indication detection and short yellow time detection); NEMA TS-2 Malfunction Management Units; and 170 cabinet 210ECL and 2010ECL conflict monitors (including red monitoring and so-called plus features such as dual indication detection and short yellow time detection).

Comply with the following sections: 3.3, 3.5, 3.6, 5.2, 5.3, 5.7, 6.1, 6.3.1, 6.3.3, 6.3.4, 6.3.5, 6.4.4, 6.4.5, and 6.4.6 of "The Equipment and Material Standards" of the Institute of Transportation Engineers "Vehicular Traffic Control Signal Heads" (VTCSH) Part 2, Chapter 2A.

Furnish Portland Orange LEDs for the hand and countdown that are the latest AlInGaP technology or higher, and Lunar White LEDs for the man that are the latest InGaN technology or higher.

Provide certification with the signal modules when offered for evaluation that your product complies with the sections of the ITE specification identified in paragraph 1.12 above and this specification. Provide test results showing that the signal modules meet or exceed the luminous intensity requirements of sections 1.8 and 1.9 of this specification.

Ship each module as a complete kit designed for retrofitting existing pedestrian signal sections with an LED display module. Provide modules that include, but are not limited to the following items: lens, LED display mounted on a circuit board, wire leads with strain relief, rigid housing, electronics including a power supply integral to the LED module which is protected by the housing, and a neoprene one piece gasket. Ensure that the module is compatible with standard, existing, pedestrian head mounting hardware.

Warrant performance for a period of 60 months from the date of installation and include repair or replacement of an LED signal module that exhibits light output degradation, which in the judgment of the Department, cannot be easily seen at 150 feet (45 meters) in bright sunlight with a visor on the housing or which drops below the luminous intensity output requirements. Warrant failure due to workmanship, materials, and manufacturing defects during the first 60 months after the date of installation. Repair or replace any failed modules within 30 calendar days of notification at no cost to the Department.

Page 10-227, Subarticle 1098-2(F)

Replace the first sentence in the paragraph with the following:

Furnish 16-4 and 16-7 signal cable that complies with IMSA specification 20-1 except provide the following conductor insulation colors:

- For 16-4 cable: white, yellow, red, and green

- For 16-7 cable: white, yellow, red, green, yellow with black stripe tracer, red with black stripe tracer, and green with black stripe tracer. Apply continuous stripe tracer on conductor insulation with a longitudinal or spiral pattern.

Provide a ripcord to allow the cable jacket to be opened without using a cutter. IMSA specification 19-1 will not be acceptable.

1.3. Wood Poles (1098-6)

Page 10-228, Article 1098-6

Replace the entire article with the following:

Provide poles of treated southern pine or treated Douglas fir that meet the requirements of ANSI 05.1. Provide Class 3 or better wood poles that are a minimum length of 40 feet (12.2 meters) unless otherwise shown on the plans and are of a sufficient length to maintain minimum required distances above the roadway, obstructions and affected railroad tracks. Mark each pole in accordance with ANSI 05.01. First roof and bore poles and then give them a full-length preservative treatment.

Provide poles with pentachlorophenol or chromated copper arsenate (CCA) preservative, in accordance with AWPA Standard C4-99. Ensure the retention of preservative is a minimum of 0.45 lb. per cubic foot (7.2 kg per cubic meter) for pentachlorophenol and 0.6 lb. per cubic foot (9.6 kg per cubic meter) for CCA.

1.4. Loop Lead-In Cable (1098-9)

Page 10-230, Article 1098-9

Replace the entire article with the following:

Furnish lead-in cable with conductors of size 18 AWG that are fabricated from stranded copper, and that complies with IMSA Specification 50-2 except as follows:

- Provide the following two pair (4 conductor) conductor insulation pair colors: clear-yellow and red-green.
- Provide the following four pair (8 conductor) conductor insulation pair colors: clear-yellow, red-green, clear with black stripe tracer-yellow with black stripe tracer, and red with black stripe tracer-green with black stripe tracer. Apply continuous stripe tracer on conductor insulation with a longitudinal or spiral pattern.
- Provide cable jacket formed from black polyethylene. Ensure the finished jacket provides environmental stress resistance, outdoor weatherability, toughness, low temperature performance, and ultraviolet resistance.
- Provide a ripcord to allow the cable jacket to be opened without using a cutter.
- Install all underground lead-in cable in non-metallic conduit.

1.5. Type 170E Cabinets (1098-19)

Page 10-241, Subarticle 1098-19(B)

Add the following paragraph:

If additional surge protected power outlets are needed to accommodate fiber transceivers, modems, etc.; install a UL listed, industrial, heavy-duty type power outlet strip with a maximum rating of 15 A / 125 VAC, 60 Hz. Provide a strip that has a minimum of 3 grounded outlets.

Ensure the power outlet strip plugs into one of the controller unit receptacles located on the rear of the PDA. Ensure power outlet strip is mounted securely; provide strain relief if necessary.

Pages 10-245-247, Subarticle 1098-19 (D) **(Model 2010 Enhanced Conflict Monitor)**

Replace Subarticle (D) with the following:

Furnish Model 2010 Enhanced Conflict Monitors with 16 channels. In addition to CALTRANS requirements, ensure that the conflict monitor monitors for the absence of a valid voltage level on at least one channel output of each load switch. Ensure that the absence of the programming card will cause the conflict monitor to trigger, and remain in the triggered state until reset.

Provide a conflict monitor that recognizes the faults specified by CALTRANS and the following additional per channel faults that apply for monitor inputs to each channel:

- consider a Red input greater than 70 Vrms as an "on" condition;
- consider a Red input less than 50 Vrms as an "off" condition (no valid signal);
- consider a Red input between 50 Vrms and 70 Vrms to be undefined by these specifications;
- consider a Yellow or Green input greater than 25 Vrms as an "on" condition;
- consider a Green or Yellow input less than 15 Vrms as an "off" condition; and
- consider a Green or Yellow input between 15 Vrms and 25 Vrms to be undefined by these specifications.

Ensure that the monitor will trigger upon detection of a fault and will remain in the triggered (failure detected) state until the unit is reset at the front panel or through the remote reset input for the following failures:

1. **Red Monitoring or Absence of Any Indication (Red Failure):** A condition in which no valid voltage signal is detected on any of the green, yellow, or red inputs to a given monitor channel. If a signal is not detected on at least one input (R, Y, or G) of a conflict monitor channel for a period greater than 1000 ms when used with a 170 controller and 1500 ms when used with a 2070L controller, ensure that the monitor will trigger and put the intersection into flash. If the absence of any indication condition lasts less that 750 ms when used with a 170 controller and 1200 ms when used with a 2070L controller, ensure that the conflict monitor will not trigger. Have red monitoring occur when the P20 Connector is installed and both of the following input conditions are in effect: a) the Red Enable input to monitor is active (Red Enable voltages are "on" at greater than 70 Vrms, off at less than 50 Vrms, undefined between 50 Vrms and 70 Vrms), and b) and neither Special Function 1 nor Special Function 2 inputs are active.
2. **Yellow Indication Sequence Error:** Yellow indication following a green is missing or shorter than 2.7 seconds (with ± 0.1-second accuracy). If a channel fails to detect an "on" signal at the Yellow input following the detection of an "on" signal at a Green input for that channel, ensure that the monitor triggers and generates a sequence error fault indication.
3. **Dual Indications on the Same Channel:** In this condition, more than one indication (R,Y,G) is detected as "on" at the same time on the same channel. If dual indications are detected for a period greater than 500 ms, ensure that the conflict monitor triggers and

displays the proper failure indication (Dual Ind fault). If this condition is detected for less than 250 ms, ensure that the monitor does not trigger.

Enable the monitor function for short/missing yellows and for dual indications on a per channel basis.

Provide Special Function 1 and Special Function 2 that comply with the Los Angeles City DOT Traffic Signal Specification DOT 170 ATSAC Universal and Related Equipment #54-053-02 to eliminate red failure monitoring while allowing other additional enhanced fault monitoring functions to continue.

Ensure that the removal of the P-20 ribbon cable will cause the monitor to recognize a latching fault condition and place the cabinet into flashing operation.

Ensure that when the Conflict Monitor is triggered due to a fault, it provides an LED indication identifying the type of failure detected by the monitor except for the P20 ribbon cable removal fault. Ensure that the monitor indicates which channels were active during a conflict condition and which channels experienced a failure for all other per channel fault conditions detected, and that these indications and the status of each channel are retained until the Conflict Monitor is reset.

Ensure that the conflict monitor will store at least nine of the most recent malfunctions detected by the monitor in EEPROM memory. For each malfunction, record at a minimum the time, date, type of malfunction, relevant field signal indications, and specific channels involved with the malfunction.

Provide communications from the monitor to the 170/2070L controller via an RS-232C/D port on the monitor in order to upload all event log information from the monitor to the controller or to a system computer via the controller. Ensure that the controller can receive the data through a controller Asynchronous Communications Interface Adapter (Type 170E) or Async Serial Comm Module (2070L) determined by the controller software. Provide software capable of communicating directly through the same monitor RS-232C/D to retrieve all event log information to a laptop computer.

In addition to the connectors required by the CALTRANS Specifications, provide the conflict monitor with a connector mounted on the front of the monitor (3M-3428-5302 with two polarizing keys or equal) which mates with a 20 pin ribbon cable connector that conducts the signals from the P20 connector on the cabinet assembly. Provide a P20 connector and terminal assembly that complies with the Los Angeles City DOT "Traffic Signal Specification DOT 170 ATSAC Universal and Related Equipment #54-053-02" in effect on the date of advertisement. Provide connector pins on the monitor with the following functions:

Pin #	Function	Pin #	Function
1	Channel 15 Red	11	Channel 9 Red
2	Channel 16 Red	12	Channel 8 Red
3	Channel 14 Red	13	Channel 7 Red
4	Chassis Ground	14	Channel 6 Red
5	Channel 13 Red	15	Channel 5 Red
6	Special Function 2	16	Channel 4 Red
7	Channel 12 Red	17	Channel 3 Red
8	Special Function 1	18	Channel 2 Red
9	Channel 10 Red	19	Channel 1 Red
10	Channel 11 Red	20	Red Enable

Provide a DB-9 female connector for the purpose of data communication with the controller. Electrically isolate the port interface electronics from all monitor electronics, excluding Chassis Ground. Furnish a communications connecting cable with pin connections as follows:

170		**Conflict Monitor DB-9**
RX pin L	Connect to	TX pin 2
TX pin K	Connect to	RX pin 3
+5 pin D	Connect to	DTR pin 4
GND pin N	Connect to	GND pin 5

2070L		**Conflict Monitor DB-9**
DCD pin 1	Connect to	DCD pin 1
RX pin 2	Connect to	TX pin 2
TX pin 3	Connect to	RX pin 3
GND pin 5	Connect to	GND pin 5
RTS pin 7	Connect to	CTS pin 7
CTS pin 8	Connect to	RTS pin 8

1.6. Type 2070L Controllers (1098-20)

Page 10-247, Article 1098-20

Replace the entire article with the following:

Conform to CALTRANS Traffic Signal Control Equipment Specifications and all addenda in effect on the date of advertisement except as required herein. Where an item is no longer cited, the last applicable specification applies.

Furnish Model 2070L controllers. Ensure that removal of the program module from the controller will place the intersection into flash.

The Department will provide software at the beginning of the burning-in period. Contractor shall give 5 working days notice prior to needing software. Program software provided by the Department.

Provide model 2070L controllers with the latest version of OS9 operating software and device drivers, composed of the unit chassis and at a minimum the following modules and assemblies:

- MODEL 2070 1B, CPU Module, Single Board
- MODEL 2070-2A, Field I/O Module (FI/O)
- MODEL 2070-3B, Front Panel Module (FP), Display B (8x40)
- MODEL 2070-4A, Power Supply Module, 10 AMP
- MODEL 2070-7A, Async Serial Com Module (9-pin RS-232)

Furnish one additional MODEL 2070-7A, Async Serial Com Module (9-pin RS-232) for all master controller locations.

Furnish one removable data key with each 2070L controller unit.

For locations designated as master locations, furnish a Hayes or approved equivalent auto-dial/auto-answer external modem to accomplish the interface to the microcomputers unless otherwise required (minimum baud rate of 53K and downward compatible to the master and microcomputer communication baud rates). Include all necessary hardware to ensure telecommunications.

2. 2002 STANDARD SPECIFICATIONS FOR ROADS & STRUCTURES – SECTION 1700 REVISIONS

The 2002 Standard Specifications are revised as follows:

2.1. General Requirements (1700)

Page 17-2, Subarticle 1700-3 (D), add the following paragraph

In the event the contractor fails to perform in accordance with the plans and specifications within the time frame specified, the Department reserves the right to perform the maintenance and emergency service necessary to assure continuous traffic signal operation. Further, all expenses incurred by the Department in implementing this option shall be deducted from the payment due the contractor, plus a $250 liquidated damage per occasion, per day, or any portion thereof, until corrected. The liquidated damages are due to increased public hazard resulting from the malfunction.

Page 17-2, Subarticle 1700-3 (F)

In paragraph 2, sentence 2, delete "type 1."

Page 17-3, Subarticle 1700-3 (J)

In paragraph 2, sentence 2, revise "detectable metallic burial tape" to "marker tape."

2.2. Wood Poles (1720)

Page 17-10, Article 1720-3

Replace the fourth paragraph with the following paragraph:

On joint use poles and NCDOT owned poles, at signal and traffic management systems equipment installations (i.e. controller cabinets, CCTV cabinets, DMS cabinets, etc.), bond the messenger cable(s) to the existing pole ground using burndy clamps at each end and at 1300-foot intervals. On multiple messenger cable arrangements, connect all messenger cable ends with #6 solid bare copper wire and bond with split bolt connectors or burndy clamps (UCG25RS) or

equivalent. On joint use and NCDOT owned poles, if an existing pole ground does not exist, install a grounding system consisting of a #6 AWG bare copper wire that is exothermically welded to a ground rod.

In the last paragraph, last sentence, revise "5/8 inch x 8 foot (16 mm x 2.4 m) ground rod" to "5/8 inch x 10 foot (16 mm x 3.0 m) ground rod."

2.3. Riser Assemblies (1722)

Page 17-12, Article 1722-3

In paragraph 4 add the following after the last sentence:

Install condulet on all risers for lead-in cable.

2.4. Loop Lead-In Cable (1726)

Page 17-14, Article 1726-3

Replace paragraph 1 with the following:

Install lead-in cable.

Delete paragraph 3.

In paragraph 4, delete "type 1."

In paragraph 6, revise "less than 0.0036 ohms per foot (0.012 ohms per meter)" to "less than 0.00885 ohms per foot (0.0295 ohms per meter)."

Page 17-15, Article 1726-4

Delete the last sentence.

2.5. Controllers with Cabinets (1751)

Page 17-34, Subarticle 1751-3(A)

In paragraph 3, replace sentence 2 with the following:

For all other installations, do not program the controller for late night flashing operation unless otherwise directed.

Page 17-34, Subarticle 1751-3(B)

Add the following paragraph after the first paragraph:

Program telemetry command sequences and enable devices necessary for testing of communication between local controllers and field master controllers, and between field master controllers and the central computer.

Page 17-34, Article 1751-4

Replace paragraph 2 with the following:

Actual number of each type of detector cards (2-channels) furnished, installed, and accepted. If 4-channel detector cards are used in order to fulfill the requirements of the plans, payment will be allowed for two detector cards for each 4-channel detector card.

In paragraph 3, revise "No measurement will be made..." to include "modems."

Page 17-35, Article 1751-5

Replace paragraph 2 with the following:

The quantity of detector cards, measured as provided above, will be paid for at the contract unit price each for "Detector Card (_____)."

In paragraph 3, revise "Detector Channel" to "Detector Card."

3. TEMPORARY TRAFFIC SIGNAL INSTALLATIONS

3.1. DESCRIPTION

Install and remove temporary traffic signals.

3.2. CONSTRUCTION METHODS

When a traffic signal is installed for control of traffic during construction of the project and scheduled for removal during or upon completion of the project, install and remove the temporary traffic signal as required by the plans. Upon removal of the temporary traffic signal, restore the surface to a like-new condition. Rake smooth unpaved areas, repave paved areas to like-new conditions, and seed grassed areas that are damaged.

Prepare the intersection for sign control before removing the temporary traffic signal. Install the required regulatory signs in accordance with Sections 900, 901, and 903 of the 2002 Standard Specifications for Roads and Structures. Cover the signs with burlap bags until the traffic signal is placed into flashing operation.

Place the traffic signal into flashing operation and uncover the signs simultaneously. Allow flashing operation for a minimum of one week before removal.

Signal cabinets, controllers, detector units, signal heads and accessories, and microwave detectors are the property of the Department. Return Department owned equipment between 8:00 a.m. and 12:00 p.m., Monday through Thursday, to the Traffic Services Office within the Division responsible for the administration of the project. Assume ownership of removed poles, messenger cable, interconnect cable, communications cable, supporting hardware, and loop emulator detection equipment, unless otherwise specified in the contract.

The Department will deduct the cost of Department-owned equipment damaged by the contractor from money due to the contractor.

3.3. BASIS OF PAYMENT

There will be no direct payment for work covered in this section. Payment at the contract unit prices for the various items in the contract will be full compensation for all work covered by this section.

Project B-3348 **Hyde County**

Project Special Provisions
Structures

Table of Contents

	Page #
Calcium Nitrite Corrosion Inhibitor (2-14-04)	1
Mechanical Butt Splicing For Reinforcing Steel (10-12-01)	2
Adhesively Anchored Anchor Bolts or Dowels (10-12-01)	3
Epoxy Protective Coating (10-12-01)	6
Falsework and Formwork (10-12-01)	8
Submittal of Working Drawings (2-14-04)	13
Elastomeric Bearings (10-03-02)	19
Unclassified Structure Excavation at Station 18+34.00 -L- & 22+85.00 -L- (12-12-02)	19
Prestressed Concrete Members (2-14-04)	19
Prestressed Concrete Piles (2-14-04)	20
Bearing Piles (SPECIAL)	21

Betsy S Cox 5-28-04

PROJECT SPECIAL PROVISIONS
STRUCTURES

Project B-3348 **Hyde County**

CALCIUM NITRITE CORROSION INHIBITOR (2-14-04)

Add an approved calcium nitrite corrosion inhibitor (30% solids) to the concrete mix at the batch plant for the members identified by the plan notes. Clearly mark the prestressed concrete members that contain calcium nitrite.

Use the inhibitor at a minimum rate of 3.0 gal/yd^3 (14.9 liters/m^3). Ensure that the hardened concrete contains at least 5.1 lbs/yd^3 (3.0 kg/m^3) Nitrite (NO_2) when tested in accordance with N.C. Department of Transportation, Materials and Tests Method Chem. C-20.0 with the exception of concrete used in prestressed members. Test prestressed members as follows:

The Inspector will perform the complete C-21.0 "Field Test Procedure for the Nitrite Ion in Plastic Concrete" on plastic concrete samples obtained randomly from a truck used to pour concrete near each end (live end and dead end) of a prestressed concrete casting. Powder samples will be taken from hardened cylinders made at the time C-21.0 is run for any concrete that fails the C-21.0 (plastic test) method. The Chemical Testing Laboratory will test the powder using method C-20.0 "Determination of Nitrite in Hardened Concrete." Acceptance of the concrete is dependent in the results of method C-20.0 (hardened test) when any sample fails the C-21.0 (plastic test method).

The Inspector will perform a qualitative nitrite ion check by method C-22.0 (Field Spot Test) on each load of concrete batched for a prestressed concrete casting bed. Acceptance of the concrete is dependent on the results of method C-20.0 (hardened test) when any sample fails the C-22.0 (Field Spot Test). The producer may elect to not incorporate concrete that fails Method C-22.0 (Field Spot Test) in lieu of waiting for C-20.0 (hardened test) test results to determine the acceptability of the member. Once per each week's production of prestressed concrete with corrosion inhibitor, random samples of hardened concrete powder will be taken from cylinders used for method C-21.0 (plastic test). These samples will be submitted to the Chemical Testing Laboratory for analysis using method C-20.0 (hardened test).

Units with calcium nitrite in a quantity less than specified are subject to rejection.

Furnish concrete cylinders to the Engineer, in a quantity to be specified, to verify the concentrations of calcium nitrite in hardened concrete. Concrete failing to contain calcium nitrite at the required concentrations as tested is subject to rejection.

Use only air-entraining, water-reducing, and/or set-controlling admixtures in the production of concrete mixtures that are compatible with calcium nitrite solutions.

Strictly adhere to the manufacturer's written recommendations regarding the use of admixtures including storage, transportation and method of mixing. If preferred, use calcium nitrite, which

acts as an accelerator, in conjunction with a retarder to control the set of concrete, as per the manufacturer's recommendation.

No separate payment will be made for furnishing and incorporating the calcium nitrite solution into the concrete mixture. The cost of furnishing and incorporating the admixture is considered a part of the work of fabricating and furnishing the prestressed concrete units or supplying Class AA concrete.

MECHANICAL BUTT SPLICING FOR REINFORCING STEEL (10-12-01)

1.0 GENERAL

When mechanically butt splicing reinforcing steel, use a standard metal filled sleeve, cement mortar filled sleeve, threaded steel couplings, forged steel sleeve, cold-forged sleeve or an exothermic process whereby molten filler metal, contained by a high strength steel sleeve of larger inside diameter than the bars, is introduced into the annular space between the bars and the sleeve and also between the ends of the bars. Provide a splice that is capable of transferring at least 125% of the yield strength of the bars from one bar to the other by the mechanical strengths of the splice components.

The following is a list of approved connectors:

Brand Name	Approved Size
Bar-Lock Couplers	#4 - #11 (#13 - #36)
Barsplice Products	
Bar-Grip System	#4 - #18 (#13 - #57)
Grip-Twist System	#4 - #18 (#13 - #57)
Threaded Dowel Bar Coupler	#4 - #8 (#13 - #25)
Erico	
Lenton Interlok Grout-Filled Coupler	#6 - #11 (#19 - #36)
Lenton Position Coupler	#4 - #18 (#13 - #57)
Lenton Standard Coupler	#4 - #18 (#13 - #57)
Quick-Wedge Coupler	#4 - #6 (#13 - #19)
Richmond DB-SAE Dowel Bar Splicer	#4 - #11 (#13 - #36)
Williams Form Engineering Flange Coupler	#4 - #14 (#13 - #43)
Zap Screwlok	#4 - #11 (#13 - #36)

For splices not on the approved list, as a condition of approval, assemble three test splices in the presence of the Engineer for each of the bar materials identical to that which is proposed for use in the structure and forward the test splices to N. C. Department of Transportation Materials and Tests Unit in Raleigh, N.C.

When an exothermic connector is used, do not let the splice depend upon fusion of the filler metal with the bars. Select a temperature for heating the bars that is below the melting point of the bars and is sufficiently low so as not to significantly affect the original hardness nor decrease the structural properties of the bars. Visual inspection of the finished splices is sufficient; the splice is acceptable if sound filler metal is present at both ends of the splice sleeve and at the sleeve entry port.

Splice the bars in accordance with the manufacturer's recommendations using the manufacturer's required accessories as approved by the Engineer. Use mechanical butt splices only where specified on the plans. Any additional splices require approval.

If bars are epoxy coated, strip the epoxy coating within the limits of the sleeve prior to splicing. After making the splice, paint any unprotected areas of the reinforcing bar and the coupling sleeve with epoxy paint as described in the Standard Specifications.

2.0 BASIS OF PAYMENT

No separate measurement or payment will be made for this work. The following pay items will be full compensation for the above work as follows:

- The unit contract price bid for "Reinforced Concrete Deck Slab" will be full compensation for mechanical butt splices in concrete decks.
- The unit contract price bid for "Reinforcing Steel" or "Epoxy Coated Reinforcing Steel" will be full compensation for mechanical butt splices in bridge substructures and cast-in-place culverts.

ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS (10-12-01)

1.0 DESCRIPTION

The work covered by this Special Provision consists of furnishing all necessary labor, equipment, and materials and performing all operations necessary for installing anchor bolts/dowels in concrete using an adhesive bonding system in accordance with the details shown on the plans and with the requirements of this specification unless otherwise directed.

Submit a description of the proposed adhesive bonding system to the Engineer for review, comments and acceptance. Include in the description the bolt type and its deformations, equipment, manufacturer's recommended hole diameter, embedment depth, material specifications, and any other material, equipment or procedure not covered by the plans or these specifications. List the properties of the adhesive, including density, minimum and maximum temperature application, setting time, shelf life, pot life, shear strength and compressive strength. If bars/dowels containing a corrosion protective coating are required, provide an adhesive that does not contain any chemical elements that are detrimental to the coating and include a statement to this effect in the submittal.

2.0 MATERIALS

Use an adhesive bonding system that has been tested for a tensile strength of 125% of the specified anchor bolt/dowel yield load. Provide certification that, for the particular bolt grade, diameter and embedment depth required, the anchor system will not fail by adhesive failure and that the anchor bolt/dowel will not move. The minimum concrete compressive strength is 3000 psi (20.7 MPa) for certification and anchorage selection.

Package components of the adhesive so that one whole container of each component mixes to form one batch of adhesive. Use containers designed so that all of the contents may be removed easily and sealed tightly to prevent leakage. Furnish adhesive material requiring hand mixing in two separate containers designated as Component A and Component B. Provide a self contained cartridge or capsule consisting of two components which are automatically mixed as they are dispensed, as in the case of a cartridge, or drilled into, as in the case of a capsule.

Clearly label each container with the manufacturer's name, date of manufacture, batch number, batch expiration date, direction for use, and warnings and precautions concerning the contents as required by State or Federal Laws and Regulations.

3.0 PROCEDURE

A. Drilling of Holes into Concrete

When directed, use a jig or fixture to ensure the holes are positioned and aligned correctly during the drilling process. Upon approval, adjusting hole locations to avoid reinforcing steel is permitted.

Drill the holes with a pneumatic drill unless another drilling method is approved. Follow the manufacturer's recommendations regarding the diameter of the drilled hole.

Immediately after completion of drilling, blow all dust and debris out of the holes with oil-free compressed air using a wand extending to the bottom of the hole. Remove all dust from the sides of the holes by brushing the holes with a stiff-bristled brush of a sufficient size and then blow the hole free of dust. Repeat this procedure until the hole is completely clean. Check each hole with a depth gauge to ensure proper embedment depth.

Repair spalled or otherwise damaged concrete using approved methods.

B. Inspection of Holes

Inspect each hole immediately prior to placing the adhesive and the anchor bolts/dowels. Ensure all holes are dry and free of dust, dirt, oil, and grease. Rework any hole that does not meet the requirements of this Special Provision.

C. Mixing of Adhesive

Mix the adhesive in strict conformance with the manufacturer's instructions.

D. Embedment of Anchor Bolt/Dowel

Clean each anchor bolt/dowel so that it is free of all rust, grease, oil, and other contaminants.

Unless otherwise shown on the plans, the minimum anchor bolt/dowel embedment depth is such that the adhesive develops at least 125% of the anchor bolt/dowel yield load as determined by the manufacturer.

Insert the anchor bolt/dowel the specified depth into the hole and slightly agitate it to ensure wetting and complete encapsulation. After insertion of the anchor bolt/dowel, strike off any excessive adhesive flush with the concrete face. Should the adhesive fail to fill the hole, add additional adhesive to the hole to allow a flush strike-off.

Do not disturb the anchor bolts/dowels while adhesive is hardening.

4.0 FIELD TESTING

When specified on the plans, test the installed anchor bolts/dowels for adequate adhesive as specified below. Inform the Engineer when the tests will be performed at least 2 days prior to testing. Conduct the tests in the presence of the Engineer.

Use a calibrated hydraulic centerhole jack system for testing. Place the jack on a plate washer that has a hole at least 1/8 inch (3 mm) larger than the hole drilled into the concrete. Position the plate washer on center to allow an unobstructed pull. Position the anchor bolts/dowels and the jack on the same axis. Have an approved testing agency calibrate the jack within 6 months prior to testing. Supply the Engineer with a certificate of calibration.

In the presence of the Engineer, field test 10% of the first 50 anchor bolts/dowels prior to installing any additional anchors. For testing, apply and hold briefly 90% of the anchor bolt/dowel yield load shown on the plans. No visible signs of movement of the anchor bolts/dowels is permitted under this load. Upon receiving satisfactory results from these tests, install the remaining anchors. Test a minimum of 2% of the remaining anchors as previously described.

Record data for each anchor bolt/dowel tested on the report form entitled "Installation Test Report of Adhesively Anchored Anchor Bolts or Dowels". Obtain this form from the North Carolina Department of Transportation Materials and Tests Engineer. Submit a copy of the completed report forms to the Engineer.

Final acceptance of the adhesively anchored system is based on the conformance of the pull test to the requirements of this specification. Failure to meet the criteria of this specification is grounds for rejection.

5.0 BASIS OF PAYMENT

No separate measurement or payment will be made for furnishing, installing, and testing anchor bolts/dowels.

Payment at the contract unit prices for the various pay items will be full compensation for all materials, equipment, tools, labor, and incidentals necessary to complete the above work.

EPOXY PROTECTIVE COATING (10-12-01)

1.0 DESCRIPTION

This work consists of preparing the concrete surface and furnishing and applying an epoxy protective coating to the surfaces described in this Special Provision. When epoxy protective coating is required, cure the top surfaces of the bent or end bent caps in accordance with the Standard Specifications, but do not use the Membrane Curing Compound method.

2.0 MATERIALS

Use an epoxy coating that meets the most recently published NCDOT Specification on the date of advertisement. Use the epoxy coating that meets NCDOT-Type 4A Flexible, epoxy coating, moisture insensitive.

Provide a certification for the proposed epoxy showing that it meets NCDOT-Type 4A.

The following companies have epoxies that meet Type 4A Specifications:

- E-Bond Epoxy, Inc.
  Fort Lauderdale, Florida 33307
- Permagile Industries
  Plainview, NY 11803
- Poly-Carb
  Cleveland, OH 44139
- Tamms, Inc.
  Mentor, OH 44060
- Adhesive Engineering
  Cleveland, OH 44122-5554
- Kaufman Products
  Baltimore, MD 21226-1131
- Prime Resins
  Lithonia, GA 30058

- Sika Corporation
  Lyndhurst, N. J. 07071

A copy of the specifications for Epoxy Resin Systems is available from the Materials and Tests Unit.

3.0 SURFACES

With the exception of cored slab bridges, apply the epoxy protective coating to the top surface area, including chamfer area, of bent caps under expansion joints and of end bent caps, excluding areas under elastomeric bearings. For cored slab bridges, do not apply the epoxy protective coating to the bent or end bent caps. Also, apply epoxy protective coating to the ends of prestressed concrete members as noted on the plans.

Use extreme care to keep the area under the elastomeric bearings free of the epoxy protective coating. Do not apply the epoxy protective coating in the notch at the ends of the prestressed concrete girders.

Thoroughly clean all dust, dirt, grease, oil, laitance, and other objectionable material from the concrete surfaces to be coated. Air-blast all surfaces immediately prior to applying the protective coating.

Only use cleaning agents pre-approved by the Engineer.

4.0 APPLICATION

Apply epoxy protective coating only when the air temperature is at least 40°F (4°C) and rising, but less than 95°F (35°C) and the surface temperature of the area to be coated is at least 40°F (4°C). Remove any excess or free standing water from the surfaces before applying the coating. Apply one coat of epoxy protective coating at a rate such that it covers between 100 and 200 ft^2/gal (2.5 and 5 m^2/liter).

Note: Under certain combinations of circumstances, the cured epoxy protective coating may develop "oily" condition on the surface due to amine blush. This condition is not detrimental to the applied system.

Apply the coating so that the entire designated surface of the concrete is covered and all pores filled. To provide a uniform appearance, use the exact same material on all visible surfaces.

5.0 BASIS OF PAYMENT

No separate measurement or payment will be made for preparing, furnishing and applying the epoxy protective coating to the concrete surfaces.

Payment at the contract unit prices for the various pay items will be full compensation for the above work including all materials, equipment, tools, labor, and incidentals necessary to complete the work.

FALSEWORK AND FORMWORK (10-12-01)

1.0 DESCRIPTION

Use this Special Provision as a guide to develop temporary works submittals required by the Standard Specifications or other provisions; no additional submittals are required herein. Such temporary works include, but are not limited to, falsework and formwork.

Falsework is any temporary construction used to support the permanent structure until it becomes self-supporting. Formwork is the temporary structure or mold used to retain plastic or fluid concrete in its designated shape until it hardens. Access scaffolding is a temporary structure that functions as a work platform that supports construction personnel, materials, and tools, but is not intended to support the structure. Scaffolding systems that are used to temporarily support permanent structures (as opposed to functioning as work platforms) are considered to be falsework under the definitions given. Shoring is a component of falsework such as horizontal, vertical, or inclined support members. Where the term "temporary works" is used, it includes all of the temporary facilities used in bridge construction that do not become part of the permanent structure.

Design and construct safe and adequate temporary works that will support all loads imposed and provide the necessary rigidity to achieve the lines and grades shown on the plans in the final structure.

2.0 MATERIALS

Select materials suitable for temporary works; however, select materials that also ensure the safety and quality required by the design assumptions. The Engineer has authority to reject material on the basis of its condition, inappropriate use, safety, or nonconformance with the plans. Clearly identify allowable loads or stresses for all materials or manufactured devices on the plans. Revise the plan and notify the Engineer if any change to materials or material strengths is required.

3.0 DESIGN REQUIREMENTS

A. Working Drawings

Provide working drawings for items as specified in the contract, or as required by the Engineer, with design calculations and supporting data in sufficient detail to permit a structural and safety review of the proposed design of the temporary work.

When concrete placement is involved, include data such as the drawings of proposed sequence, rate of placement, direction of placement, and location of all construction joints. Submit the number of copies as called for by the contract.

When required, have the drawings and calculations prepared under the guidance of, and sealed by, a North Carolina Registered Professional Engineer who is knowledgeable in temporary works design.

Design falsework and formwork requiring submittals in accordance with the 1995 AASHTO *Guide Design Specifications for Bridge Temporary Works* except as noted herein.

1. Wind Loads

   Table 2.2 of Article 2.2.5.1 is modified to include wind velocities up to 110 mph (177 km/hr). In addition, Table 2.2A is included to provide the maximum wind speeds by county in North Carolina.

Table 2.2 - Wind Pressure Values

Height Zone feet (m) above ground	Pressure, lb/ft^2 (kPa) for Indicated Wind Velocity, mph (km/hr)				
	70 (112.7)	80 (128.7)	90 (144.8)	100 (160.9)	110 (177.0)
0 to 30 (0 to 9.1)	15 (0.72)	20 (0.96)	25 (1.20)	30 (1.44)	35 (1.68)
30 to 50 (9.1 to 15.2)	20 (0.96)	25 (1.20)	30 (1.44)	35 (1.68)	40 (1.92)
50 to 100 (15.2 to 30.5)	25 (1.20)	30 (1.44)	35 (1.68)	40 (1.92)	45 (2.15)
over 100 (30.5)	30 (1.44)	35 (1.68)	40 (1.92)	45 (2.15)	50 (2.39)

2. Time of Removal

   The following requirements replace those of Article 3.4.8.2.

   Do not remove forms until the concrete has attained strengths required in Article 420-17 of the Standard Specifications and these Special Provisions.

   Do not remove forms until the concrete has sufficient strength to prevent damage to the surface.

Table 2.2A - Steady State Maximum Wind Speeds by Counties in North Carolina

COUNTY	25 YR (mph) (km/hr)	COUNTY	25 YR (mph) (km/hr)	COUNTY	25 YR (mph) (km/hr)
Alamance	70 (112.7)	Franklin	70 (112.7)	Pamlico	100 (160.9)
Alexander	70 (112.7)	Gaston	70 (112.7)	Pasquotank	100 (160.9)
Alleghany	70 (112.7)	Gates	90 (144.8)	Pender	100 (160.9)
Anson	70 (112.7)	Graham	80 (128.7)	Perquimans	100 (160.9)
Ashe	70 (112.7)	Granville	70 (112.7)	Person	70 (112.7)
Avery	70 (112.7)	Greene	80 (128.7)	Pitt	90 (144.8)
Beaufort	100 (160.9)	Guilford	70 (112.7)	Polk	80 (128.7)
Bertie	90 (144.8)	Halifax	80 (128.7)	Randolph	70 (112.7)
Bladen	90 (144.8)	Harnett	70 (112.7)	Richmond	70 (112.7)
Brunswick	100 (160.9)	Haywood	80 (128.7)	Robeson	80 (128.7)
Buncombe	80 (128.7)	Henderson	80 (128.7)	Rockingham	70 (112.7)
Burke	70 (112.7)	Hertford	90 (144.8)	Rowan	70 (112.7)
Cabarrus	70 (112.7)	Hoke	70 (112.7)	Rutherford	70 (112.7)
Caldwell	70 (112.7)	Hyde	110 (177.0)	Sampson	90 (144.8)
Camden	100 (160.9)	Iredell	70 (112.7)	Scotland	70 (112.7)
Carteret	110 (177.0)	Jackson	80 (128.7)	Stanley	70 (112.7)
Caswell	70 (112.7)	Johnston	80 (128.7)	Stokes	70 (112.7)
Catawba	70 (112.7)	Jones	100 (160.9)	Surry	70 (112.7)
Cherokee	80 (128.7)	Lee	70 (112.7)	Swain	80 (128.7)
Chatham	70 (112.7)	Lenoir	90 (144.8)	Translyvania	80 (128.7)
Chowan	90 (144.8)	Lincoln	70 (112.7)	Tyrell	100 (160.9)
Clay	80 (128.7)	Macon	80 (128.7)	Union	70 (112.7)
Cleveland	70 (112.7)	Madison	80 (128.7)	Vance	70 (112.7)
Columbus	90 (144.8)	Martin	90 (144.8)	Wake	70 (112.7)
Craven	100 (160.9)	McDowell	70 (112.7)	Warren	70 (112.7)
Cumberland	80 (128.7)	Mecklenburg	70 (112.7)	Washington	100 (160.9)
Currituck	100 (160.9)	Mitchell	70 (112.7)	Watauga	70 (112.7)
Dare	110 (177.0)	Montgomery	70(112.7)	Wayne	80 (128.7)
Davidson	70 (112.7)	Moore	70 (112.7)	Wilkes	70 (112.7)
Davie	70 (112.7)	Nash	80 (128.7)	Wilson	80 (128.7)
Duplin	90 (144.8)	New Hanover	100 (160.9)	Yadkin	70 (112.7)
Durham	70 (112.7)	Northampton	80 (128.7)	Yancey	70 (112.7)
Edgecombe	80 (128.7)	Onslow	100 (160.9)		
Forsyth	70 (112.7)	Orange	70 (112.7)		

Note on the working drawings any anchorages, connectors, inserts, steel sleeves or other such devices used as part of the falsework or formwork that remains in the permanent structure. If the plan notes indicate that the structure contains the necessary corrosion protection required for a Corrosive Site, epoxy coat, galvanize, metallize or otherwise protect these devices as directed by the Engineer. Any coating required by the Engineer will be considered incidental to the various pay items requiring temporary works.

B. Review and Approval

The Engineer is responsible for the review and approval of temporary works' drawings.

Submit the working drawings sufficiently in advance of proposed use to allow for their review, revision (if needed), and approval without delay to the work.

Do not start construction of any temporary work for which working drawings are required until the drawings have been approved. Such approval does not relieve the Contractor of the responsibility for the accuracy and adequacy of the working drawings.

The time period for review of the working drawings does not begin until complete drawings and design calculations, when required, are received by the Engineer.

On the drawings, show all information necessary to allow the design of any component to be checked independently as determined by the Engineer.

If requested by the Engineer, submit with the working drawings manufacturer's catalog data listing the weight of all construction equipment that will be supported on the temporary work. Show anticipated total settlements and/or deflections of falsework and forms on the working drawings. Include falsework footing settlements, joint take-up, and deflection of beams or girders. Design the falsework and forms supporting deck slabs and overhangs on girder bridges so that there will be no differential settlement between the girders and the deck forms during placement of deck concrete.

4.0 CONSTRUCTION REQUIREMENTS

All requirements of Section 420 of the Standard Specifications apply.

Construct temporary works in conformance with the approved working drawings. Ensure that the quality of materials and workmanship employed is consistent with that assumed in the design of the temporary works. Do not weld falsework members to any portion of the permanent structure unless approved. Show any welding to the permanent structure on the approved construction drawings.

Provide tell-tales attached to the forms and extending to the ground, or other means, for accurate measurement of falsework settlement. Make sure that the anticipated compressive settlement and/or deflection of falsework does not exceed 1 inch (25 mm). For cast-in-place concrete structures, make sure that the calculated deflection of falsework

flexural members does not exceed 1/240 of their span regardless of whether or not the deflection is compensated by camber strips.

A. Maintenance and Inspection

Inspect and maintain the temporary work in an acceptable condition throughout the period of its use. Certify that the manufactured devices have been maintained in a condition to allow them to safely carry their rated loads. Clearly mark each piece so that its capacity can be readily determined at the job site.

Perform an in-depth inspection of an applicable portion(s) of the temporary works, in the presence of the Engineer, not more than 24 hours prior to the beginning of each concrete placement. Inspect other temporary works at least once a month to ensure that they are functioning properly. Have a North Carolina Registered Professional Engineer inspect the cofferdams, shoring, sheathing, support of excavation structures, and support systems for load tests prior to loading.

B. Foundations

Determine the safe bearing capacity of the foundation material on which the supports for temporary works rest. If required by the Engineer, conduct load tests to verify proposed bearing capacity values that are marginal or in other high-risk situations.

The use of the foundation support values shown on the contract plans of the permanent structure is permitted if the foundations are on the same level and on the same soil as those of the permanent structure.

Allow for adequate site drainage or soil protection to prevent soil saturation and washout of the soil supporting the temporary works supports.

If piles are used, the estimation of capacities and later confirmation during construction using standard procedures based on the driving characteristics of the pile is permitted. If preferred, use load tests to confirm the estimated capacities; or, if required by the Engineer conduct load tests to verify bearing capacity values that are marginal or in other high risk situations.

The Engineer reviews and approves the proposed pile and soil bearing capacities.

5.0 REMOVAL

Unless otherwise permitted, remove and keep all temporary works upon completion of the work. Do not disturb or otherwise damage the finished work.

Remove temporary works in conformance with the contract documents. Remove them in such a manner as to permit the structure to uniformly and gradually take the stresses due to its own weight.

6.0 METHOD OF MEASUREMENT

Unless otherwise specified, temporary works will not be directly measured.

7.0 BASIS OF PAYMENT

Payment at the contract unit prices for the various pay items requiring temporary works will be full compensation for the above falsework and formwork.

SUBMITTAL OF WORKING DRAWINGS (2-14-04)

1.0 GENERAL

Submit working drawings in accordance with Article 105-2 of the Standard Specifications and the requirements of this Special Provision. The list of submittals contained herein does not represent a list of required submittals for this project. Submittals are only necessary for those items as required by the Standard Specifications, other Special Provisions, or contract plans. Make submittals that are not specifically noted in this Special Provision directly to the Resident Engineer.

If submittals contain variations from plan details or specifications, significantly affect project cost, or significantly affect field construction or operations, discuss them with, and submit them through, the Resident Engineer. State the reason for the proposed variation in the submittals. To minimize overall review time, make sure all working drawing submittals are complete when first submitted. Provide a contact name and phone number with each submittal. Direct any questions regarding working drawing submittal requirements to the Resident Engineer, Structure Design Unit contacts or the Geotechnical Engineering Unit contacts noted below.

2.0 WORKING DRAWINGS SUBMITTAL CONTACTS

All submittals noted herein are reviewed by the Structure Design Unit and/or the Geotechnical Engineering Unit.

For submittals to the Structure Design Unit, use the following addresses:

Via US mail:

Mr. G. R. Perfetti, P. E.
State Bridge Design Engineer
North Carolina Department
of Transportation
Structure Design Unit
1581 Mail Service Center
Raleigh, NC 27699-1581

Attention: Mr. P. D. Lambert, P. E.

Via other delivery service:

Mr. G. R. Perfetti, P. E.
State Bridge Design Engineer
North Carolina Department
of Transportation
Structure Design Unit
1000 Birch Ridge Drive
Raleigh, NC 27610

Attention: Mr. P. D. Lambert, P. E.

For submittals to the Geotechnical Engineering Unit, use the following addresses:

For projects in Divisions 1-7, use the following Eastern Regional Office address:

Via US mail:

Mr. K. J. Kim, Ph. D., P. E.
Eastern Regional Geotechnical Manager
North Carolina Department of Transportation
Geotechnical Engineering Unit
Eastern Regional Office
1570 Mail Service Center
Raleigh, NC 27699-1570

Via other delivery service:

Mr. K. J. Kim, Ph. D., P. E.
Eastern Regional Geotechnical Manager
North Carolina Department of Transportation
Geotechnical Engineering Unit
Eastern Regional Office
3301 Jones Sausage Road, Suite 100
Garner, NC 27529

For projects in Divisions 8-14, use the following Western Regional Office address:

Via US mail:

Western Regional Geotechnical Manager
North Carolina Department of Transportation
Geotechnical Engineering Unit
Western Regional Office
1589 Mail Service Center
Raleigh, NC 27699-1589

Attention: Mr. M. A. Mulla, P. E.

Via other delivery service:

Western Regional Geotechnical Manager
North Carolina Department of Transportation
Geotechnical Engineering Unit
Western Regional Office
1020 Birch Ridge Drive
Raleigh, NC 27610

Attention: Mr. M. A. Mulla, P. E.

Direct any questions concerning submittal review status, review comments, or drawing markups to the following contacts:

Primary Structures Contact:
Paul Lambert
(919) 250-4041
(919) 250-4082 facsimile
plambert@dot.state.nc.us

Secondary Structures Contacts:
James Gaither (919) 250-4042
Man-Pan Hui (919) 250-4044

Eastern Regional Geotechnical Contact (Divisions 1-7):
K. J. Kim
(919) 662-4710
(919) 662-3095 facsimile
kkim@dot.state.nc.us

Western Regional Geotechnical Contact (Divisions 8-14):

Mohammed Mulla
(919) 250-4088
(919) 250-4237 facsimile
mmulla@dot.state.nc.us

3.0 SUBMITTAL COPIES

The quantities provided in this Special Provision act as a guide in the submittal process.

Unless otherwise required by the contract, submit two sets of supporting calculations to the Structure Design Unit.

Furnish one complete copy of the submittal, including all attachments, to the Resident Engineer. If requested, provide additional copies of any submittal. At the same time, submit the following number of copies directly to the Structure Design Unit and/or the Geotechnical Engineering Unit:

Working Drawing Submittal	Copies Required by Structure Design Unit	Copies Required by Geotechnical Engineering Unit	Contract Reference Requiring Submittal [1]
Arch Culvert Falsework	5	0	Plan Note & SN Sheet
Box Culvert Falsework [2]	5	0	Plan Note & SN Sheet
Cofferdams [4]	6	1	Articles 410-5 and 420-8
Expansion Joint Seals (hold down plate type with base angle)	9	0	"Expansion Joint Seals"
Expansion Joint Seals (modular)	2, then 9	0	"Modular Expansion Joint Seals"
Expansion Joint Seals (strip seals)	9	0	"Strip Seals"
Falsework & Forms (superstructure)	8	0	Article 420-3
Falsework & Forms [2] (substructure)	8	0	Article 420-3
Mechanically Stabilized Earth Retaining Walls [4]	7	1	"MSE Retaining Walls"
Metal Bridge Railing	8	0	Plan Note
Metal Stay-in-Place Forms	8	0	Article 420-3
Metalwork for Elastomeric Bearings [5,6]	7	0	Article 1072-10
Miscellaneous Metalwork [5,6]	7	0	Article 1072-10
Overhead Sign Assemblies	13	0	Article 903-3(C)
Pile Points	7	1	Article 450-8(D) & "Steel Pile Points"
Placement of Equipment on Structures (cranes, etc.)	7	0	Article 420-20

Precast Concrete Box Culverts	2, then 1 reproducible	0	"(Optional) Precast Reinforced Concrete Box Culvert at Station ___"
Precast Retaining Wall Panels	10	0	Article 1077-2
Pot bearings [5]	8	0	"Pot Bearings"
Prestressed Concrete Deck Panels	6 and 1 reproducible	0	Article 420-3
Proprietary retaining walls [4]	9	1	Applicable Project Special Provision
Prestressed Concrete Girder (strand elongation and detensioning sequences)	6	0	Articles 1078-8 and 1078-11
Prestressed Concrete Cored Slab (detensioning sequences) [3]	6	0	Article 1078-11
Revised Bridge Deck Plans (adaptation to metal stay-in-place forms)	2, then 1 reproducible	0	Article 420-3
Revised Bridge Deck Plans (adaptation to modular expansion joint seals)	2, then 1 reproducible	0	"Modular Expansion Joint Seals"
Soil Nail Retaining Walls [4]	4	1	Applicable Project Special Provision
Sound Barrier Wall Steel Fabrication Plans [6]	7	0	Article 1072-10 & "Sound Barrier Wall"
Sound Barrier Wall Casting Plans	10	0	Article 1077-2 & "Sound Barrier Wall"
Structural Steel [5]	2, then 7	0	Article 1072-10
TFE Expansion Bearings [5]	8	0	Article 1072-10
Temporary Detour Structures [4]	10	1	Article 400-3 & "Construction, Maintenance and Removal of Temporary Structure at Station ____"
Temporary Shoring [4]	6	1	Article 410-4 & "Temporary Shoring for Maintenance of Traffic"

Temporary Fabric or Wire Walls [8]	0	2	Applicable Project Special Provision
Permanent Anchored Tieback Retaining Walls [4]	4	1	Applicable Project Special Provision
Evazote Joint Seals [7]	9	0	Applicable Project Special Provision
Optional Disc Bearings [5]	8	0	"Optional Disc Bearings"
Removal of Existing Structure over Railroad	5	0	Railroad Special Provisions
Drilled Pier Construction Sequence Plans [8]	0	2	"Drilled Piers"
Pile Hammers [8]	0	2	Article 450-6

FOOTNOTES

1. References are provided to help locate the part of the contract where the working drawing submittals are required. References in quotes refer to the Project Special Provision by that name. Articles refer to the Standard Specifications.
2. Submittals for these items are necessary only when plan notes require them.
3. Submittals for these items may not be required. A list of pre-approved sequences is available from the producer or the Materials and Tests Unit.
4. These submittals are reviewed by the Structure Design Unit and the Geotechnical Engineering Unit. If NCDOT Shoring Standards are used, working drawings need not be submitted, but the Shoring Selection Form should be forwarded to the Geotechnical Engineering Unit.
5. The fabricator may submit these items directly to the Structure Design Unit.
6. The two sets of preliminary submittals required by Article 1072-10 of the Standard Specifications are not required for these items.
7. Submittals for Fabrication Drawings are not required. Submission of Catalogue Cuts of Proposed Material is required. See Section 5.A of the Project Special Provision.
8. Submittals for these items are reviewed by the Geotechnical Engineering Unit only and correspondence regarding these items should be directed to and will come from the Geotechnical Engineering Unit.

ELASTOMERIC BEARINGS **(10-03-02)**

Use elastomeric bearings in accordance with Article 1079-2 of the Standard Specifications except as follows:

TABLE 1079-2
NATURAL RUBBER ELASTOMER REQUIREMENTS

Grade (durometer)	50	60
PHYSICAL PROPERTIES Hardness ASTM D2240	50 +5 -5	60 +5 -5

UNCLASSIFIED STRUCTURE EXCAVATION AT STATION 18+34.00 -L- & 22+85.00 -L- **(12/12/02)**

The 2002 Standard Specifications shall be revised as follows:

Unclassified structure excavation shall be in accordance with Section 412 of the Standard Specifications with the following exception:

Payment will be made under:

Unclassified Structure Excavation at Station 18+34.00 -L- & 22+85.00 -L-.....Lump Sum

PRESTRESSED CONCRETE MEMBERS **(2-14-04)**

In Section 1078-12 of the Standard Specifications, delete the first two lines. After the first sentence of "5," place the following:

"Conduit may be rigid one-piece or rigid two-piece (split sheathed). Do not use flexible conduit."

In Section 1078-13 of the Standard Specifications, after the fourth paragraph add the following paragraph:

"When handling the prestressed concrete members, a temporary stress of $5\sqrt{f_{ci}}$ is permitted, where f_{ci} is the strength of concrete at release, in psi."

In Section 1078-5 of the Standard Specifications, place the following two sentences after the first paragraph:

"When casting holes through the top flange of Bulb Tee Girders for overhang or interior bay falsework hanger rods use rigid PVC conduits with a wall thickness of approximately 1/8 inch. Do not use thin wall material. Secure conduits in the forms so that they do not migrate out of the proper location. Other methods of forming holes may be proposed but are subject to the Engineer's approval."

"When casting dowel rod holes in cored slab members use material that creates round, vertical holes of the specified diameter and in the correct location. Do not use material that deforms, collapses or shifts position during casting of the member."

PRESTRESSED CONCRETE PILES **(2-14-04)**

In Section 450–11, "Basis of Payment" of the Standard Specifications, revise "(B) Cutting off Piles" as follows:

Change the sentence in the second paragraph to read:

"...payment for cutting off each pile will be made at an amount equal to the contract unit price per linear foot (per 0.3 meter) for furnishing and driving the pile which has been cut off."

BEARING PILES

A. GENERAL

During pile driving operations, the Contractor shall use an approved system. No variations in the driving system will be permitted without the Engineer's written approval. Any change in the driving system will only be considered after the Contractor has submitted the necessary information for a revised wave equation analysis. The Contractor will be notified of the acceptance or rejection of the driving system changes within five (5) calendar days of the Engineer's receipt of the requested change.

B. PILE DRIVING ANALYZER (PDA)

1.0 General:

This work shall consist of driving prestressed concrete pile(s) with the Pile Driving Analyzer (PDA) (ASTM D 4945-89) attached. The PDA shall be used on the first production pile installed as directed by the Engineer. This prestressed concrete pile shall be a vertical pile. The Contractor shall be responsible for notifying the Engineer of their pile driving schedule not less than fourteen (14) working days prior to the beginning of pile driving.

The Engineer will take dynamic measurements during pile driving. Measurements taken during driving will include, but not be limited to: hammer performance, skin friction, bearing capacity, and driving stresses.

Wave equation tables for the production piles will be furnished to the Contractor two (2) weeks after the dynamic testing is completed. Deeper driving or less driving may be required in order to allow for variations in the location and/or strength of the stratum from which the pile obtains its primary capacity.

2.0 Equipment:

The Engineer will furnish the dynamic measuring instruments. Transducers will be attached at an approximate distance equal to three times the diameter below the head of the pile. The transducers will be attached with bolts placed in holes that the Contractor has pre-drilled as directed by the Engineer. The Engineer will furnish materials and directions for installation of the transducers. The Contractor shall install the transducers as directed by the Engineer.

The Contractor is responsible in terms of both actual expense and time delays for transducers that are either damaged during installation or are installed incorrectly. The Engineer may require the Contractor to readjust the transducers during driving if the dynamic records are inconclusive. The transducers will be attached near the head of the pile after the hammer and leads have been placed on the pile.

It shall be the Contractor's responsibility to supply a suitable enclosure (shelter) to protect the computer and the test equipment operator from conditions of sun, wet, wind, and cold. The shelter shall have a minimum floor size of 6 ft. x 6 ft. and minimum roof height of 7 ft. The inside temperature of the shelter shall be maintained between 50 to 85 degrees F. A heating or cooling system shall be provided, if required, to maintain the above-mentioned temperature. The enclosure shall be sufficiently near the pile location (within 75 ft. of the pile being tested) to be reached by the PDA cable(s).

Any damage to the Pile Driving Analyzer and supporting equipment due to the fault or negligence of the Contractor shall be replaced by the Contractor at no additional cost to the department.

3.0 Construction

The Contractor shall drill the holes necessary for the attachment of the transducers. The Contractor shall then lift, align and rotate the pile(s) to be tested in the driving leads. The Contractor shall install the instrumentation after the hammer and leads have been placed on the pile as directed by the Engineer. The Engineer will measure the wavespeed of the pile(s) as the Contractor drives the pile for approximately ten (10) blows with the proposed hammer or as directed by the Engineer. It is estimated that it will take approximately one (1) hour per pile to attach the transducers and measure the wavespeed after the hammer has been placed on the pile.

It is the Contractor's responsibility to supply pile(s) with extra length, if needed, or to situate the pile(s) in the leads and template such that the dynamic instruments and their accompanying wires will not be damaged by the template during driving.

The pile(s) shall be driven to the depth at which the Pile Driving Analyzer indicates that the capacity as shown in the plans has been achieved or as directed by the Engineer.

The Engineer may require that the Contractor reduce the energy transmitted to the pile(s) by reducing the energy of the hammer during driving. The pile installation procedure shall be subject to modification if dynamic testing indicates it to be necessary.

When directed by the Engineer, the Contractor shall wait a minimum 24 hours and then redrive the pile. After the Engineer reattaches the instruments, the contractor shall restrike the pile with the approved hammer. The hammer shall obtain the required stroke and then the minimum amount of penetration as directed by the Engineer. The minimum amount of penetration required during restrike will be six (6) inches or as directed by the Engineer.

The Contractor shall notify the Engineer of his redriving schedule not less than one (1) working day prior to beginning redrive.

The Engineer shall determine when the dynamic testing has been satisfactorily completed.

C. METHOD OF MEASUREMENT AND BASIS OF PAYMENT

The number of production prestressed concrete piles to be dynamically tested on this project will be as directed by the Engineer. The number of piles to be tested is anticipated to be one (1). However, evaluation of the PDA results may require that additional dynamic testing be performed on other production prestressed concrete piles as required by the Engineer.

All costs involved with dynamic load testing the prestressed concrete pile(s) using the PDA shall be included in the unit price bid for the "Dynamic Load Test", each per pile. The unit price bids shall be full compensation for all materials, labor, tools, equipment, mobilization, and incidentals necessary to complete the work for each dynamic test, including redriving but excluding the production pile(s).

PROJECT SPECIAL PROVISIONS
PERMITS

The Contractor's attention is directed to the following permits, which have been issued to the Department of Transportation by the authority granting the permit.

PERMIT	AUTHORITY GRANTING THE PERMIT
Dredge and Fill and/or Work in Navigable Waters (404)	U. S. Army Corps of Engineers
State Dredge and Fill and/or CAMA	Division of Coastal Management, DENR, State of North Carolina
Water Quality (401)	Division of Environmental Management, DENR, State of North Carolina
Stormwater	Division of Environment and Natural Resources, DENR, State of North Carolina

The Contractor shall comply with all applicable permit conditions during construction of this project. Those conditions marked by * are the responsibility of the department and the Contractor has no responsibility in accomplishing those conditions.

Agents of the permitting authority will periodically inspect the project for adherence to the permits.

The Contractor's attention is also directed to Articles 107-10 and 107-14 of the Standard Specifications and the following:

Should the Contractor propose to utilize construction methods (such as temporary structures or fill in waters and/or wetlands for haul roads, work platforms, cofferdams, etc.) not specifically identified in the permit (individual, general, or nationwide) authorizing the project it shall be the Contractor's responsibility to coordinate with the Engineer to determine what, if any, additional permit action is required. The Contractor shall also be responsible for initiating the request for the authorization of such construction method by the permitting agency. The request shall be submitted through the Engineer. The Contractor shall not utilize the construction method until it is approved by the permitting agency. The request normally takes approximately 60 days to process; however, no extensions of time or additional compensation will be granted for delays resulting from the Contractor's request for approval of construction methods not specifically identified in the permit.

Where construction moratoriums are contained in a permit condition which restricts the Contractor's activities to certain times of the year, those moratoriums will apply only to the portions of the work taking place in the waters or wetlands provided that activities outside those areas is done in such a manner as to not affect the waters or wetlands.

Permit Class
NEW

123

Permit Number
100-04

STATE OF NORTH CAROLINA
Department of Environment and Natural Resources
and
Coastal Resources Commission

Permit

for

X Major Development in an Area of Environmental Concern pursuant to NCGS 113A-118

X Excavation and/or filling pursuant to NCGS 113-229

Issued to **N.C. Department of Transportation, 1548 Mail Service Center, Raleigh, NC 27699-1548**

Authorizing development in Hyde County at Kitty Creek, Bridge No. 54 and Wallace Canal, Bridge No. 52 on US 264 (TIP No. B-3348), as requested in the permittee's application dated 4/26/04 including the attached four (4) ½ size drawings dated 8/28/03 and two (2) dated 3/22/04.

This permit, issued on **7/9/04**, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

B-3348, Bridge Replacements

1) In accordance with project commitments made within the Categorical Exclusion document dated August 2002, due to the presence of anadromous fish and the classification of Kitty Creek as a Primary Nursery Area, no in-water work shall be conducted from March 1st to September 30th of any year without prior approval of the NC Division of Coastal Management (DCM), in consultation with the NC Wildlife Resources Commission (WRC) and the NC Division of Marine Fisheries (DMF).

2) The permittee shall implement NC DOT's Stream Crossing Guidelines for Anadromous Fish Passage, except as modified in Condition No. 1 of this permit.

(See attached sheets for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date. An appeal requires resolution prior to work initiation or continuance as the case may be.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

No Expiration Date, pursuant to GS 136-44.7B

In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DENR and the Chairman of the Coastal Resources Commission.

Charles S. Jones, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.

Signature of Permittee

ADDITIONAL CONDITIONS

3) The NCDOT document "Best Management Practices for Bridge Demolition and Removal" (final 9/20/99) shall be followed during demolition and construction activities.

4) Turbidity curtains shall be used to isolate all work areas from Kitty Creek and Wallace Canal, including pile or casement installation, placement of riprap, excavation or filling. The turbidity curtains shall be installed parallel to the banks on each side of the creek or canal. The turbidity curtains shall extend past the construction limits and attach to the silt fences containing the work site. The turbidity curtains shall not encircle a work area or extend across the creek or canal. The turbidity curtains are to be properly maintained and retained in the water until construction is complete and all of the work area contained by the turbidity curtains has been stabilized by vegetation or other means. The turbidity curtains shall be removed when turbidity within the curtains reaches ambient levels.

5) All excavated materials and debris associated with the removal of the existing bridge and existing causeway will be disposed of on an approved upland site.

6) The temporary placement or double handling of excavated or fill materials within waters or vegetated wetlands are not authorized.

7) All excavated materials will be confined above normal high water and landward of regularly or irregularly flooded wetlands behind adequate dikes or other retaining structures to prevent spillover of solids into any wetlands or surrounding waters.

8) Debris resulting from demolition of the existing bridge, including deck components, shall not enter wetlands or waters of the United States, even temporarily.

9) Existing bridge pilings shall be extracted or removed flush with the streambed.

10) No excavated or fill material will be placed at any time in any vegetated wetlands or surrounding waters outside of the alignment of the fill area indicated on the work plan drawing(s).

11) The fill material will be clean and free of any pollutants except in trace quantities.

12) There shall be no clearing or grubbing in wetlands outside of the area indicated on the workplan drawing(s).

13) No excavation shall occur within wetlands or waters of the United States, except as depicted on the attached workplan drawings.

14) Placement of riprap shall be limited to the areas as depicted on the attached work plan drawings. The riprap material must be free from loose dirt or any pollutant. It must be of a size sufficient to prevent its movement from the site by wave or current action. The riprap material must consist of clean rock or masonry materials, such as but not limited to, granite or broken concrete.

15) Live concrete shall not be allowed to contact waters of the state. Furthermore, no water that has contacted live concrete shall be allowed to enter waters of the state.

ADDITIONAL CONDITIONS

16) Pilings shall be installed by vibratory hammer or pile driver, specifically piles shall not be jetted. Should drilled shaft construction or jetting of any bridge piles become necessary, a modification to this permit will be required.

Sedimentation and Erosion Control

17) This project is in a High Quality Water Zone and must comply with the Design Standards in Sensitive Watersheds, 15A NCAC 4B .0124.

18) The permittee shall follow Best Management Practices for the protection of Surface Waters and sedimentation and erosion control measures sufficient to protect aquatic resources.

19) Appropriate sedimentation and erosion control devices, measures or structures must be implemented to ensure that eroded materials do not enter adjacent wetlands, watercourses and property (e.g. silt fence, diversion swales or berms, sand fence, etc.).

20) This project must conform to all requirements of the NC Sedimentation Pollution Control Act and NC DOT's Memorandum of Agreement with the Division of Land Resources.

21) In order to protect water quality, runoff from the construction must not visibly increase the amount of suspended sediments in adjacent waters.

Mitigation

22) In accordance with project commitments, three 24" diameter pipes will be installed under the road leading to the NC Wildlife Resources Commission (WRC) boat ramp to reestablish a hydrological connection to the adjacent coastal marsh. The culvert inverts must be buried a minimum of one foot below normal streambed elevation to allow for passage of water and aquatic life.

NOTE: It is anticipated that the bridge lengthening with the proposed removal of 95 linear feet of existing causeway and restoration of additional causeway due to the 17-foot shift in roadway alignment will lead to the hydrological and vegetative restoration of approximately 0.64 acres of filled causeway. Roadway fill and undercutting will impact 0.26 acres of coastal wetlands.

23) The wetland restoration areas will be fully contained by silt fence until all of the unsuitable fill material has been removed and the restoration areas have been restored to the approximate natural elevation of the adjacent wetlands and stabilized with vegetation.

24) The permittee will ensure the removal of all unsuitable fill material within the wetland restoration areas, and will fill any void with suitable organic wetland substrate to the same approximate elevation as the adjacent natural wetlands or to an appropriate reference wetland elevation.

25) The permittee will provide verification to DCM that the wetland restoration areas have been restored to the approximate natural elevation of the adjacent coastal wetlands.

ADDITIONAL CONDITIONS

26) The permittee shall provide an annual update on the wetland restoration areas of this project. This annual update will consist of photographs and a brief report on the progress of the restoration areas in re-attaining wetland jurisdictional status. Three years after project completion, the permittee shall schedule an agency field meeting with DCM, the NC Division of Water Quality, and the NC Wildlife Resources Commission to determine if the restoration areas have re-attained jurisdictional wetland status and/or if additional remedial actions are necessary.

27) Due to the possibility that compaction, mechanized clearing and/or other site alterations might prevent any temporary wetland impact areas from re-attaining jurisdictional wetland status, the permittee shall provide an annual update on the wetland areas temporarily impacted by this project. This annual update will consist of photographs provided during the agency monitoring report meeting and a brief report on the progress of these temporarily impacted areas in re-attaining wetland jurisdictional status. Three years after project completion, the permittee shall schedule an agency field meeting with DCM, the NC Division of Water Quality and the NC Wildlife Resources Commission to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If at the end of 3 years the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, NC DCM and the above listed agencies shall determine whether a compensatory wetland mitigation plan will be required.

NOTE: This permit does not convey or imply approval of the suitability of any excess mitigation generated by this project as compensatory wetland mitigation for any particular future projects. The use of any portion of the excess mitigation generated by this project as compensatory mitigation for future projects will be approved on a case-by-case basis during the CAMA permit review and/or consistency process.

NOTE: If the excess mitigation generated by this project is to be used as mitigation for impacts of future projects, written concurrence must be obtained from DCM that post-construction monitoring demonstrates that vegetative and hydrologic success criteria have been met. Vegetative and hydrologic monitoring data shall be made available to DCM at such time as the site is proposed for use as mitigation for future projects.

General

28) Any relocation of utility lines that is not already depicted on the attached work plan drawings, or described within the attached permit application, will require approval by DCM, either under the authority of this permit, or by the utility company obtaining separate authorization.

29) If the permittee determines that additional permanent and/or temporary impacts will occur that are not shown on the attached permit drawings, additional authorization from DCM will be required.

30) This permit does not eliminate the need to obtain any additional permits, approvals or authorizations that may be required.

ADDITIONAL CONDITIONS

31) The N.C. Division of Water Quality (DWQ) has authorized the proposed project under a General Water Quality Certification and the Tar-Pamlico River Buffer Rules (DWQ Project No. 04-0314), which was issued on 4/23/04. Any violation of the Certification approved by the DWQ will be considered a violation of this CAMA permit.

32) The Division of Water Quality (DWQ) approval of this project under stormwater management rules of the Environmental Management Commission is covered by way of Stormwater Permit No. SW7040508, which was issued on 6/30/04. Any violation of the permit approved by the DWQ will be considered a violation of this CAMA permit.

NOTE: The U.S. Army Corps of Engineers authorized the proposed project under Nationwide Permit Number 23 (COE Action ID No. 200411262), which was issued on 4/30/04.

NOTE: The Permittee is encouraged to contact the Hyde County Health Department to discuss mosquito control measures.

T 128 Underwood

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1890
WILMINGTON. NORTH CAROLINA 28402-1890

REPLY TO
ATTENTION OF:

April 30, 2004

Regulatory Division

Subject: Action ID No. 200411262 and Nationwide Permit No. 23 (Approved Categorical Exclusions)

Dr. Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA
N.C. Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Reference your Categorical Exclusion Document, dated August 30, 2002, and your subsequent correspondence dated February 23, 2004, for the replacement of Bridge No. 52 over an unnamed canal and Bridge 54 over Kitty Creek, Federal Aid Project No. BRSTP-264 (9), State Project No. 8.1080601, T.I.P. No. B-3348, Hyde County, North Carolina. The stated purpose of the project is to replace the currently inadequate, obsolete and structurally deficient bridges with new safer bridges. The preferred alternative involves staged, simultaneous construction and will adversely impact .26 acres of wetlands and .48 acres of open waters adjacent to U.S. Highway 264, an unnamed canal and Kitty Creek.

For the purposes of the Corps of Engineers Regulatory Program, Title 33, Code of Federal Regulations (CFR), Part 330.6, published in the Federal Register on November 22, 1991, lists nationwide permits. Authorization pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, was provided for activities undertaken, assisted, authorized, regulated, funded or financed, in whole or part, by another Federal agency or department where that agency or department has determined, pursuant to the CEQ Regulation for the Implementing the Procedural Provisions of the National Environmental Policy Act, that the activity, work or discharge is categorically excluded from environmental documentation because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment, and the Office of the Chief of Engineers has been furnished notice of the agency's or department's application for the categorical exclusion and concurs with that determination.

Review of this project indicates that the construction of the new bridge will adversely impact 0.26 acres of coastal marsh and 0.48 acres of surface waters. The coastal wetland and surface water impacts are from shifting the road and bridge alignment 17 feet to the southeast of the current structure.

Your work is authorized under Nationwide Permit 23, Categorical Exclusion, provided it is accomplished in strict accordance with the enclosed Nationwide Permit Conditions and the following special conditions:

a. The North Carolina Department of Transportation (NCDOT) will mitigate the project impacts at a ratio of 1:1 by restoring 0.26 acres of wetlands associated with the causeway removal and bridge replacement for this project. Approximately .64 acres of wetlands will be restored at this project location with 0.26 acres being utilized for this project and another 0.14 acres being utilized for TIP No. B-3349 (Action I.D. # 200411264).

b. The wetland restoration will be undertaken pursuant to NCDOT's February 23, 2004, bridge replacement application cover letter for TIP No. B-3348, page 2, avoidance and minimization section. According to that letter, approximately 95 feet of former causeway will be restored to adjacent wetland elevation and be replanted with native brackish marsh plants. Site success will be evaluated to assess whether at least 75% of the area is covered with the following 0target species: black needlerush (*Juncus roemerianus)*, salt meadow cordgrass (*Spartina patens),* and giant cordgrass (*Spartina cynosuroides)* at the end of the fifth growing season. The restoration area will be photo-documented immediately prior to planting, upon completion of the initial planting and any required replanting operations. NCDOT will provide an as-built plan to USACE, including corner stake GPS coordinates, documented qualities of plant materials, final elevations, and photo documentation within 45 days of completion of work. The mitigation will be commenced within the first growing season immediately after the construction of TIP No. B-3348 has been completed. NCDOT will be responsible for monitoring the area for a period of 5 years. Site conditions will be assessed at the end of each growing season during the 5-year monitoring period. NCDOT will provide an annual monitoring report by December 1 of each year documenting success, including: photo documentation, and problems, if any, encountered during the monitoring year timeframe. If at the end of the third replanting or at the end of the fifth and final year of monitoring, the success criteria is not met, a re-evaluation of the site will be made by NCDOT and USACE to determine a course of action to meet the permit requirements for this permit. The Wilmington District, U.S. Army Corps of Engineers, Regulatory Division; must approve any deviation from this schedule.

c. NCDOT shall survey the acreage utilized from the above restoration site and provide the Corps of Engineers, Washington Field Office, with a copy of the survey. The permittee shall maintain the acreage in its described success condition in perpetuity.

d. To allow tidal flow between the unnamed canal and the adjacent marsh, NCDOT will install three 24" culvert pipes buried 1 foot deep under the dirt road leading to the North Carolina Wildlife Boat ramp.

e. To avoid adverse impacts to spawning populations of fish, anadromous and resident species at the project site, NCDOT will follow the "Stream Crossing Guidelines for Anadromous Fish Passage."

f. To minimize negative effects on the early stage of development of the marine organisms found in the Primary Nursery Area, no in-water work will be conducted between March 1 and September 30. For the purpose of this moratorium, in water is defined as those areas that are inundated at mean high water.

g. Bridge deck drains will not discharge directly into Kitty Creek or the unnamed canal to Kitty Creek.

h. No bridge demolition debris or excavated or fill material will be placed at any time, in any wetlands or surrounding waters, outside of the alignment of the fill area indicated on the work plans.

i. The temporary placement or double handling of excavated or fill materials within waters or vegetated wetlands are not authorized.

j. All excavated materials will be confined above normal high water and landward of regularly or irregularly flooded wetlands behind adequate dikes or retaining structures to prevent spillover of solids into any wetlands or surrounding waters.

k. The fill material will be clean and free of any pollutants except in trace quantities. Metal products, organic materials, or unsightly debris will not be used.

l. All measures will be taken to avoid any temporary fill from entering into Kitty Creek and the unnamed canal to Kitty Creek from bridge demolition. Bridge demolition shall follow NCDOT best management practices for construction and maintenance activities dated August 2003 and incorporate NCDOT policy entitled "Bridge Demolition and Removal in Waters of the United States" dated September 20, 1999.

m. Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, or any activities that cause the degradation of waters or wetlands, except as authorized by this permit, or any modification to this permit. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. There shall be no excavation from, waste disposal into, or degradation of, jurisdictional waters or

wetlands associated with this permit without appropriate modification of this permit, including appropriate compensatory mitigation. This prohibition applies to all borrow and fill activities connected with this project.

n. To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent wetlands and streams, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. The permittee shall provide the USACE with appropriate maps indicating the locations of proposed borrow or waste sites as soon as the permittee has that information. The permittee will coordinate with the USACE before approving any borrow or waste sites that are within 400 feet of any streams or wetlands. The permittee shall ensure that all such areas comply with condition (m) of this permit, and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This information will include data regarding soils, vegetation and hydrology sufficient to clearly demonstrate compliance with the preceding condition (m). All information will be available to the USACE upon request. NCDOT shall require its contractors to complete and execute reclamation plans for each waste and borrow site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps of Engineers within 30 days of the completion of the reclamation work.

o. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit. A copy of this permit, including all conditions and any Corps approved modifications shall be available at the project site during construction and maintenance of this project.

p. Any violation of these conditions or violations of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act must be reported in writing to the Wilmington District, U.S. Army Corps of Engineers, within 24 hours of the violation.

q. Failure to institute and carry out the details of special conditions a. - p., above, may result in a directive to cease all ongoing and permitted work within waters and/or wetlands associated with TIP No. B-3348, or such other remedy as the District Engineer or his authorized representatives may seek.

This nationwide permit does not relieve you of the responsibility to obtain any required State or local approval. This permit will be valid for two years from the date of this letter unless the nationwide authorization is modified, reissued or revoked.

Thank you for your time and cooperation. Questions or comments may be addressed to Mr. Bill Biddlecome, Washington Regulatory Field Office, Post Office Box 1000, Washington, North Carolina, 27889, or telephone 252-975-1616, extension 31.

Sincerely,

E. David Franklin
Chief, NCDOT Team

Enclosures

Copies Furnished (without enclosures)

Mr. John Dorney
Water Quality Section
Division of Environmental Management
North Carolina Department of Environment
and Natural Resources
1650 Mail Service Center
Raleigh, North Carolina 27699-1650

Mr. Travis Wilson
Eastern Region Highway Project Coordinator
Habitat Conservation Program
1142 I-85 Service Road
Creedmoor, North Carolina 27522

Mr. Gary Jordan
U.S. Fish and Wildlife Service
Fish and Wildlife Enhancement
Post Office Box 33726
Raleigh, North Carolina 27636-3726

Mr. Ron Sechler
National Marine Fisheries Service
101 Pivers Island
Beaufort, North Carolina 28516

Mr. Chris Militscher
U.S. Environmental Protection Agency
Raleigh Office
310 New Bern Avenue, Room 206
Raleigh, North Carolina 27601

Ms. Cathy Brittingham
Division of Coastal Management
1638 Mail Service Center
Raleigh, North Carolina 27699-1638

Ms. Lynn Mathis
Division of Coastal Management
1367 U.S. Highway 17 South
Elizabeth City, North Carolina 27909

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1890
WILMINGTON. NORTH CAROLINA 28402-1890

REPLY TO
ATTENTION OF:

Permit Number: 200411262/NW23/NW33/Hyde County

Permittee: NCDOT/B-3348

Issuance: 30 April 2004

Project Manager: William Biddlecome

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

Washington Regulatory Field Office
US Army Corps of Engineers
Post Office Box 1000
Washington, NC 27889-1000

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.

_____

Signature of Permittee

NATIONWIDE PERMIT 23
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
FINAL NOTICE OF ISSUANCE AND MODIFICATION OF NATIONWIDE PERMITS
FEDERAL REGISTER
AUTHORIZED MARCH 18, 2002

Approved Categorical Exclusions: Activities undertaken, assisted, authorized, regulated, funded, or financed, in whole or in part, by another Federal agency or department where that agency or department has determined, pursuant to the Council on Environmental Quality Regulation for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA) (40 CFR part 1500 et seq.), that the activity, work, or discharge is categorically excluded from environmental documentation because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment, and the Office of the Chief of Engineers (ATTN: CECW-OR) has been furnished notice of the agency's or department's application for the categorical exclusion and concurs with that determination. Before to approval for purposes of this nationwide permit of any agency's categorical exclusions, the Chief of Engineers will solicit public comment. In addressing these comments, the Chief of Engineers may require certain conditions for authorization of an agency's categorical exclusions under this nationwide permit. (Sections 10 and 404)

NATIONWIDE PERMIT GENERAL CONDITIONS

The following General Conditions must be followed in order for any authorization by a NWP to be valid:

1. Navigation. No activity may cause more than a minimal adverse effect on navigation.

2. Proper Maintenance. Any structure or fill authorized shall be properly maintained, including maintenance to ensure public safety.

3. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

4. Aquatic Life Movements. No activity may substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

5. Equipment. Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance.

6. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state or tribe in its Section 401 Water Quality Certification and Coastal Zone Management Act consistency determination.

7. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System; or in a river officially designated by Congress as a 'study river" for possible inclusion in the system, while the river is in an official study status; unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation, or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

8. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

9. Water Quality.

a. In certain states and tribal lands an individual 401 Water Quality Certification must be obtained or waived (See 33 CFR 330.4(c)).

b. For NWPs 12, 14, 17, 18, 32, 39, 40, 42, 43, and 44, where the state or tribal 401 certification (either generically or individually) does not require or approve water quality management measures, the permittee must provide water quality management measures that will ensure that the authorized work does not result in more than minimal degradation of water quality (or the Corps determines that compliance with state or local standards, where applicable, will ensure no more than minimal adverse effect on water quality). An important component of water quality management includes stormwater management that minimizes degradation of the downstream aquatic system, including water quality (refer to General Condition 21 for stormwater management requirements). Another important component of water quality management is the establishment and maintenance of vegetated buffers next to open waters, including streams (refer to General Condition 19 for vegetated buffer requirements for the NWPs).

This condition is only applicable to projects that have the potential to affect water quality. While appropriate measures must be taken, in most cases it is not necessary to conduct detailed studies to identify such measures or to require monitoring.

10. Coastal Zone Management. In certain states, an individual state coastal zone management consistency concurrence must be obtained or waived (see 33 CFR 330.4(d)).

11. Endangered Species.

a. No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. Non-federal permittees shall notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or is located in the designated critical habitat and shall not begin work on the activity until notified by the District Engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that may affect Federally-listed endangered or threatened species or designated critical habitat, the notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. As a result of formal or informal consultation with the FWS or NMFS the District Engineer may add species-specific regional endangered species conditions to the NWPs.

b. Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical

habitat can be obtained directly from the offices of the USFWS and NMFS or their World Wide Web pages at http://www.fws.gov/r9endspp/endspp.html and http://www.nfms.noaa.gov/prot res/overview/es.html respectively.

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

13. Notification.

a. Timing; where required by the terms of the NWP, the prospective permittee must notify the District Engineer with a preconstruction notification (PCN) as early as possible. The District Engineer must determine if the notification is complete within 30 days of the date of receipt and can request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the District Engineer will notify the prospective permittee that the notification is still incomplete and the PCN review process will not commence until all of the requested information has been received by the District Engineer. The prospective permittee shall not begin the activity:

1. Until notified in writing by the District Engineer that the activity may proceed under the NWP with any special conditions imposed by the District or Division Engineer; or

2. If notified in writing by the District or Division Engineer that an Individual Permit is required; or

3. Unless 45 days have passed from the District Engineer's receipt of the complete notification and the prospective permittee has not received written notice from the District or Division Engineer. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

b. Contents of Notification: The notification must be in writing and include the following information:

1. Name, address and telephone numbers of the prospective permittee;

2. Location of the proposed project;

3. Brief description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), Regional General Permit(s), or Individual Permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP (Sketches usually clarify the project and when provided result in a quicker decision.);

4. For NWPs 7, 12, 14, 18, 21, 34, 38, 39, 40, 41, 42, and 43, the PCN must also include a delineation of affected special aquatic sites, including wetlands, vegetated shallows (e.g., submerged aquatic vegetation, seagrass beds), and riffle and pool complexes (see paragraph 13(f));

5. For NWP 7 (Cutfall Structures and Maintenance), the PCN must include information regarding the original design capacities and configurations of those areas of the facility where maintenance dredging or excavation is proposed;

6. For NWP 14 (Linear Transportation Projects), the PCN must include a compensatory mitigation proposal to offset permanent losses of waters of the US and a statement describing how temporary losses of waters of the US will be minimized to the maximum extent practicable;

7. For NWP 21 (Surface Coal Mining Activities), the PCN must include an Office of Surface Mining (OSM) or state-approved mitigation plan, if applicable. To be authorized by this NWP, the District Engineer must determine that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are minimal both individually and cumulatively and must notify the project sponsor of this determination in writing;

8. For NWP 27 (Stream and Wetland Restoration Activities), the PCN must include documentation of the prior condition of the site that will be reverted by the permittee;

9. For NWP 29 (Single-Family Housing), the PCN must also include:

i. Any past use of this NWP by the Individual Permittee and/or the permittee's spouse;

ii. A statement that the single-family housing activity is for a personal residence of the permittee;

iii. A description of the entire parcel, including its size, and a delineation of wetlands. For the purpose of this NWP, parcels of land measuring \1/4\-acre or less will not require a formal on-site delineation. However, the applicant shall provide an indication of where the wetlands are and the amount of wetlands that exists on the property. For parcels greater than

\1/4\-acre in size, formal wetland delineation must be prepared in accordance with the current method required by the Corps. (See paragraph 13(f));

iv. A written description of all land (including, if available, legal descriptions) owned by the prospective permittee and/or the prospective permittee's spouse, within a one mile radius of the parcel, in any form of ownership (including any land owned as a partner, corporation, joint tenant, co-tenant, or as a tenant-by-the-entirety) and any land on which a purchase and sale agreement or other contract for sale or purchase has been executed;

10. For NWP 31 (Maintenance of Existing Flood Control Facilities), the prospective permittee must either notify the District Engineer with a PCN prior to each maintenance activity or submit a five-year (or less) maintenance plan. In addition, the PCN must include all of the following:

i. Sufficient baseline information identifying the approved channel depths and configurations and existing facilities. Minor deviations are authorized, provided the approved flood control protection or drainage is not increased;

ii. A delineation of any affected special aquatic sites, including wetlands; and,

iii. Location of the dredged material disposal site;

11. For NWP 33 (Temporary Construction, Access, and Dewatering), the PCN must also include a restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources;

12. For NWPs 39, 43 and 44, the PCN must also include a written statement to the District Engineer explaining how avoidance and minimization for losses of waters of the US were achieved on the project site;

13. For NWP 39 and NWP 42, the PCN must include a compensatory mitigation proposal to offset losses of waters of the US or justification explaining why compensatory mitigation should not be required. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;

14. For NWP 40 (Agricultural Activities), the PCN must include a compensatory mitigation proposal to offset losses of waters of the US. This NWP does not authorize the relocation of greater than 300 linear feet of existing serviceable drainage ditches constructed in non-tidal streams unless, for drainage ditches constructed in intermittent nontidal streams, the District Engineer waives this criterion in writing, and the District Engineer has determined that the project complies with all terms and conditions of this NWP, and that any adverse impacts of the project on the aquatic environment are minimal, both individually and cumulatively;

15. For NWP 43 (Stormwater Management Facilities), the PCN must include, for the construction of new stormwater management facilities, a maintenance plan (in accordance with state and local requirements, if applicable) and a compensatory mitigation proposal to offset losses of waters of the US. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;

16. For NWP 44 (Mining Activities), the PCN must include a description of all waters of the US adversely affected by the project, a description of measures taken to minimize adverse effects to waters of the US, a description of measures taken to comply with the criteria of the NWP, and a reclamation plan (for all aggregate mining activities in isolated waters and non-tidal wetlands adjacent to headwaters and any hard rock/mineral mining activities);

17. For activities that may adversely affect Federally-listed endangered or threatened species, the PCN must include the name(s) of those endangered or threatened species that may be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work; and

18. For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

c. Form of Notification: The standard Individual Permit application form (Form ENG 4345) may be used as the notification but must clearly indicate that it is a PCN and must include all of the information required in (b) (1)-(18) of General Condition 13. A letter containing the requisite information may also be used.

d. District Engineer's Decision: In reviewing the PCN for the proposed activity, the District Engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. The prospective permittee may submit a proposed mitigation plan with the PCN to expedite the process. The District Engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. If the District Engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the District Engineer will notify the permittee and include any conditions the District Engineer deems necessary. The District Engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee is required to submit a compensatory mitigation proposal with the PCN, the proposal may be either conceptual or detailed. If the prospective permittee elects to submit a compensatory mitigation plan with the

PCN, the District Engineer will expeditiously review the proposed compensatory mitigation plan. The District Engineer must review the plan within 45 days of receiving a complete PCN and determine whether the conceptual or specific proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the District Engineer to be minimal, the District Engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the District Engineer determines that the adverse effects of the proposed work are more than minimal, then the District Engineer will notify the applicant either:

1. That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an Individual Permit;

2. that the project is authorized under the NWP subject to the applicant's submission of a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level; or

3. that the project is authorized under the NWP with specific modifications or conditions. Where the District Engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level. When conceptual mitigation is included, or a mitigation plan is required under item (2) above, no work in waters of the US will occur until the District Engineer has approved a specific mitigation plan.

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

For activities requiring notification to the District Engineer that result in the loss of greater than \1/2\-acre of waters of the US, the District Engineer will provide immediately (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy to the appropriate Federal or state offices (USFWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the District Engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the District Engineer will wait an additional 15 calendar days before making a decision on the notification. The District Engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The District Engineer will indicate in the administrative record associated with each notification that the resource agencies'

concerns were considered. As required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act, the District Engineer will provide a response to NMFS within 30 days of receipt of any Essential Fish Habitat conservation recommendations. Applicants are encouraged to provide the Corps multiple copies of notifications to expedite agency notification.

f. Wetland Delineations: Wetland delineations must be prepared in accordance with the current method required by the Corps (For NWP 29 see paragraph (b)(9)(iii) for parcels less than (\1/4\-acre in size). The permittee may ask the Corps to delineate the special aquatic site. There may be some delay if the Corps does the delineation. Furthermore, the 45-day period will not start until the wetland delineation has been completed and submitted to the Corps, where appropriate.

14. Compliance Certification. Every permittee who has received NWP verification from the Corps will submit a signed certification regarding the completed work and any required mitigation. The certification will be forwarded by the Corps with the authorization letter and will include:

a. A statement that the authorized work was done in accordance with the Corps authorization, including any general or specific conditions;

b. A statement that any required mitigation was completed in accordance with the permit conditions; and

c. The signature of the permittee certifying the completion of the work and mitigation.

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

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

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

18. Suitable Material. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may consist of unsuitable material (e.g., trash,

debris, car bodies, asphalt, etc.) and material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the CWA).

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

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

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

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

d. Compensatory mitigation (i.e., replacement or substitution of aquatic resources for those impacted) will not be used to increase the acreage losses allowed by the acreage limits of some of the NWPs. For example, \1/4\-acre of wetlands cannot be created to change a,\3/4\acre loss of wetlands to a \1/2\-acre loss associated with NWP 39 verification. However, \1/2\-acre of created wetlands can be used to reduce the impacts of a \1/2\-acre loss of wetlands to the minimum impact level in order to meet the minimal impact requirement associated with NWPs.

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

f. Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., easements, deed restrictions) of vegetated buffers to open waters. In many cases, vegetated buffers will be the only compensatory mitigation required. Vegetated buffers should consist of native species. The width of the vegetated buffers required will address documented water quality or aquatic habitat loss concerns. Normally, the vegetated buffer .will be 25 to 50 feet wide on each side of the stream, but the District Engineers may require slightly wider vegetated buffers to address documented water quality or habitat loss concerns. Where both wetlands and

open waters exist on the project site, the Corps will determine the appropriate compensatory mitigation (e.g., stream buffers or wetlands compensation) based on what is best for the aquatic environment or, a watershed basis. In cases where vegetated buffers are determined to be the most appropriate form of compensatory mitigation, the District Engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland impacts.

g. Compensatory mitigation proposals submitted with the " notification" may be either conceptual or detailed. If conceptual plans are approved under the verification, then the Corps will condition the verification to require detailed plans be submitted and approved by the Corps prior to construction of the authorized activity in waters of the US.

h. Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases that require compensatory mitigation, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

20. Spawning Areas. Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., excavate, fill, or smother downstream by substantial turbidity) of an important spawning area are not authorized.

21. Management of Water Flows. To the maximum extent practicable, the activity must be designed to maintain preconstruction downstream flow conditions (e.g., location, capacity, and flow rates). Furthermore, the activity must not permanently restrict or impede the passage of normal or expected high flows (unless the primary purpose of the fill is to impound waters) and the structure or discharge of dredged or fill material must withstand expected high flows. The activity must, to the maximum extent practicable, provide for retaining excess flows from the site, provide for maintaining surface flow rates from the site similar to preconstruction conditions, and provide for not increasing water flows from the project site, relocating water, or redirecting water flow beyond preconstruction conditions. Stream channelizing will be reduced to the minimal amount necessary, and the activity must, to the maximum extent practicable, reduce
adverse effects such as flooding or erosion downstream and upstream of the project site, unless the activity is part of a larger system designed to manage water flows. In most cases, it will not be a requirement to conduct detailed studies and monitoring of water flow.

This condition is only applicable to projects that have the potential to affect waterflows. While appropriate measures must be taken, it is not necessary to conduct detailed studies to identify such measures or require monitoring to ensure their effectiveness. Normally, the Corps will defer to state and local authorities regarding management of water flow.

22. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to the acceleration of the passage of water, and/or the restricting its flow shall be minimized to the maximum extent practicable. This includes

structures and work in navigable waters of the US, or discharges of dredged or fill material.

23. Waterfowl Breeding Areas. Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

24. Removal of Temporary Fills. Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevation.

25. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, National Wild and Scenic Rivers, critical habitat for Federally listed threatened and endangered species, coral reefs, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the District Engineer after notice and opportunity for public comment. The District Engineer may also designate additional critical resource waters after notice and opportunity for comment.

a. Except as noted below, discharges of dredged or fill material into waters of the US are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, and 44 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. Discharges of dredged or fill materials into waters of the US may be authorized by the above NWPs in National Wild and Scenic Rivers if the activity complies with General Condition 7. Further, such discharges may be authorized in designated critical habitat for Federally listed threatened or endangered species if the activity complies with General Condition 11 and the USFWS or the NMFS has concurred in a determination of compliance with this condition.

b. For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with General Condition 13, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The District Engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

26. Fills Within 100-Year Floodplains. For purposes of this General Condition, 100-year floodplains will be identified through the existing Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps or FEMA-approved local floodplain maps.

a. Discharges in Floodplain; Below Headwaters. Discharges of dredged or fill material into waters of the US within the mapped 100year floodplain, below headwaters (i.e. five cfs), resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, 43, and 44.

b. Discharges in Floodway; Above Headwaters. Discharges of dredged or fill material into waters of the US within the FEMA or locally mapped floodway, resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, and 44.

c. The permittee must comply with any applicable FEMA-approved state or local

floodplain management requirements.

27. Construction Period. For activities that have not been verified by the Corps and the project was commenced or under contract to commence by the expiration date of the NWP (or modification or revocation date), the work must be completed within 12-months after such date (including any modification that affects the project).

For activities that have been verified and the project was commenced or under contract to commence within the verification period, the work must be completed by the date determined by the Corps.

For projects that have been verified by the Corps, an extension of a Corps approved completion date maybe requested. This request must be submitted at least one month before the previously approved completion date.

FURTHER INFORMATION

1. District Engineers have authority to determine if an activity complies with the terms and conditions of a NWP.

2. NWPs do not obviate the need to obtain other Federal, State, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project.

DEFINITIONS

Best Management Practices (BMPs): BMPs are policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or nonstructural. A BMP policy may affect the limits on a development.

Compensatory Mitigation: For purposes of Section 10/404, compensatory mitigation is the restoration, creation, enhancement, or in exceptional circumstances, preservation of wetlands and/or other aquatic resources for the purpose of compensating for unavoidable adverse impacts, which remain, after all appropriate and practicable avoidance and minimization has been achieved.

Creation: The establishment of a wetland or other aquatic resource where one did not formerly

exist.

Enhancement: Activities conducted in existing wetlands or other aquatic resources that increase one or more aquatic functions.

Ephemeral Stream: An ephemeral stream has *flowing* water only during and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runnoff from rainfall is the primary source of water for stream flow.

Farm Tract: A unit of contiguous land under one ownership that is operated as a farm or part of a farm.

Flood Fringe: That portion of the 100-year floodplain outside of the floodway (often referred to as "floodway fringe").

Floodway: The area regulated by Federal, state, or local requirements to provide for the discharge of the base flood so the cumulative increase in water surface elevation is no more than a designated amount (not to exceed one foot as set by the National Flood Insurance Program) within the 100-year floodplain.

Independent Utility: A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Intermittent Stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the US: Waters of the US that include the filled area and other waters that are permanently adversely affected by flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent above-grade, at-grade, or below-grade fills that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the US is the threshold measurement of the impact to existing waters for determining whether a project may qualify for a NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and values. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the US temporarily filled, flooded, excavated, or drained, but restored to preconstruction contours and elevations after construction, are not included in the measurement of loss of waters of the US. Impacts to ephemeral waters are only not included in the acreage or linear foot measurements of loss of waters of the US or loss of stream bed, for the purpose of determining compliance with the threshold limits of the NWPs.

Non-tidal Wetland: An area that, during a year with normal patterns of precipitation has standing or flowing water for sufficient duration to establish an ordinary high water mark. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. The term "open water" includes rivers, streams, lakes, and ponds. For the purposes of the NWPs, this term does not include ephemeral waters.

Perennial Stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for the most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Permanent Above-grade Fill: A discharge of dredged or fill material into waters of the US, including wetlands, that results in a substantial increase in ground elevation and permanently converts part or all of the waterbody to dry land. Structural fills authorized by NWPs 3, 25, 36, etc. are not included.

Preservation: The protection of ecologically important wetlands or other aquatic resources in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation may include protection of upland areas adjacent to wetlands as necessary to ensure protection and/or enhancement of the overall aquatic ecosystem.

Restoration: Re-establishment of wetland and/or other aquatic resource characteristics and function(s) at a site where they have ceased to exist, or exist in a substantially degraded state.

Riffle and Pool Complex: Riffle and pool complexes are special aquatic sites under the

404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Single and Complete Project: The term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers (see definition of independent utility). For linear projects, the "single and complete project" (i.e., a single and complete crossing) will apply to each crossing of a separate water of the US (i.e., a single waterbody) at that location. An exception is for linear projects crossing a single waterbody several times at separate and distant locations; each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies.

Stormwater Management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater Management Facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and BMPs, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream Channelization: The manipulation of a stream channel to increase the rate of water flow through the stream channel. Manipulation may include deepening, widening, straightening, armoring, or other activities that change the stream cross-section or other aspects of stream channel geometry to increase the rate of water flow through the stream channel. A channelized stream remains a water of the US, despite the modifications to increase the rate of water flow.

Tidal Wetland: A tidal wetland is a wetland (i.e., water of the US) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line (i.e., spring high tide line) and are inundated by tidal waters two times per lunar month, during spring high tides.

Vegetated Buffer: A vegetated upland or wetland area next to rivers, streams, lakes, or other open waters, which separates the open water from developed areas, including agricultural land. Vegetated buffers provide a variety of aquatic habitat functions and values (e.g., aquatic habitat

for fish and other aquatic organisms, moderation of water temperature changes, and detritus for aquatic food webs) and help improve or maintain local water quality. A vegetated buffer can be established by maintaining an existing vegetated area or planting native trees, shrubs, and herbaceous plants on land next to openwaters. Mowed lawns are not considered vegetated buffers because they provide little or no aquatic habitat functions and values. The establishment and maintenance of vegetated buffers I a method of compensatory mitigation that can be used in conjunction with the restoration, creation, enhancement or preservation of aquatic habitats to ensure that activities authorized by NWPs result in minimal adverse effects to the aquatic environment. (See General Condition 19.)

Vegetated Shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: A waterbody is any area that in a normal year has water flowing or standing above ground to the extent that evidence of an ordinary high water mark is established. Wetlands contiguous to the waterbody are considered part of the waterbody.

FINAL REGIONAL CONDITIONS FOR NATIONWIDE PERMITS IN THE WILMINGTON DISTRICT

1. Waters Excluded from NWP or Subject to Additional Notification Requirements:

a. The Corps identified waters that will be excluded from use of this NWP. These waters are:

1. Discharges into Waters of the United States designated by either the North Carolina Division of Marine Fisheries (NCDMF) or the North Carolina Wildlife Resources Commission (NCWRC) as anadromous fish spawning area are prohibited during the period between February 15 and June 30, without prior written approval from NCDMF or NCWRC and the Corps.

2. Discharges into Waters of the United States designated as sturgeon spawning areas are prohibited during the period between February 1 and June 30, without prior written approval from the National Marine Fisheries Service (NMFS).

b. The Corps identified waters that will be subject to additional notification requirements for activities authorized by this NWP. These waters are:

1. Prior to the use of any NWP in any of the following North Carolina *designated waters*, applicants must comply with Nationwide Permit General Condition 13. In addition, the applicant must furnish a written statement of compliance with all of the conditions of the applicable Nationwide Permit. The North Carolina *designated waters* that require additional notification requirements are "Outstanding Resource Waters" (ORW) and "High Quality

Waters" (HQW) (as defined by the North Carolina Division of Water Quality), or "Inland Primary Nursery Areas" (IPNA) (as defined by the North Carolina Wildlife Resources Commission), or contiguous wetlands (as defined by the North Carolina Division of Water Quality), or "Primary Nursery Areas" (PNA) (as defined by the North Carolina Division of Marine Fisheries).

2. Applicants for any NWP in a designated "Area of Environmental Concern" (AEC) in the twenty (20) coastal counties of Eastern North Carolina covered by the North Carolina Coastal Area Management Act (CAMA), must also obtain the required CAMA permit. Construction activities may not commence until a copy of the approved CAMA permit is furnished to the appropriate Wilmington District Regulatory Field Office (Wilmington Field Office – P.O. Box 1890, Wilmington, NC 28402 or Washington Field Office – P.O. Box 1000, Washington, NC 27889) for authorization to begin work.

3. Prior to the use of any NWP on a Barrier Island of North Carolina, applicants must comply with Nationwide Permit General Condition 13. In addition, the applicant shall furnish a written statement of compliance with all of the conditions listed of the applicable Nationwide Permit.

4. Prior to the use of any NWP in a "Mountain or Piedmont Bog" of North Carolina, applicants shall comply with Nationwide Permit General Condition 13. In addition, the applicant shall furnish a written statement of compliance with all of the conditions listed of the applicable NWP.

Note: The following wetland community types identified in the N.C. Natural Heritage Program document, "Classification of Natural communities of North Carolina (Michael P. Schafale and Alan S. Weakley, 1990), are subject to this regional condition.

Mountain Bogs	Piedmont Bogs
Swamp Forest-Bog Complex	Upland Depression Swamp Forest
Swamp Forest-Bog Complex (Spruce Subtype)	
Southern Appalachian Bog (Northern Subtype)	
Southern Appalachian Bog (Southern Subtype)	
Southern Appalachian Fen	

5. Prior to the use of any NWP in Mountain Trout Waters within twenty-five (25) designated counties of North Carolina, applicants shall comply with Nationwide General Condition 13. In addition, the applicant shall furnish a written statement of compliance with all of the conditions listed of the applicable NWP. Notification will include a letter of comments and recommendations from the North Carolina Wildlife Resources Commission (NCWRC), the

location of work, a delineation of wetlands, a discussion of alternatives to working in the Mountain Trout Waters, why other alternatives were not selected, and a plan to provide compensatory mitigation for all unavoidable adverse impacts to the Mountain Trout Waters. To facilitate coordination with the NCWRC, the proponent may provide a copy of the notification to the NCWRC concurrent with the notification to the District Engineer. The NCWRC will respond both to the proponent and directly to the Corps of Engineers.

The twenty-five (25) designated counties are:

Alleghany	Ashe	Avery	Yancey
Buncombe	Burke	Caldwell	Wilkes
Cherokee	Clay	Graham	Swain
Haywood	Henderson	Jackson	Surry
Macon	Madison	McDowell	Stokes
Mitchell	Polk	Rutherford	
Transylvania	Watauga		

6. Applicants shall notify the NCDENR Shellfish Sanitation Section prior to dredging in or removing sediment from an area closed to shell fishing where the effluent may be released to an area open for shell fishing or swimming in order to avoid contamination of the disposal area and allow a temporary shellfish closure to be made. Any disposal of sand to the beach should occur between November 1 and April 30 when recreational usage is low. Only clean sand should be used and no dredged sand from closed shell fishing areas. If beach disposal was to occur at times other than stated above or if sand from a closed shell fishing area is to be used, a swim advisory shall be posted and a press release shall be made. NCDENR Shellfish Sanitation Section must be notified before commencing this activity.

2. List of Final Corps Regional Modifications and Conditions for All Nationwide Permits

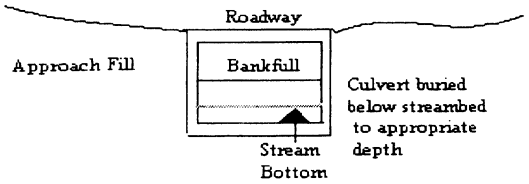
a. Individual or multiple NWPs may not be used for activities that result in the cumulative loss or degradation of greater than 300 total linear feet of perennial streambed or intermittent streambed that exhibits important aquatic function(s).

b. Prior to the use of any NWP (except 13, 27, and 39) for any activity that has more than a total of 150 total linear feet of perennial streambed impacts or intermittent streambed impacts (if the intermittent stream has important aquatic function), the applicant must comply with Nationwide Permit General Condition 13. In addition, the applicant shall furnish a written statement of compliance with all of the conditions listed of the applicable NWP. Compensatory mitigation is typically required for any impact that requires such notification. [Note: The Corps uses the Intermittent Channel Evaluation Form, located with Permit Information on the Regulatory Program Web Site, to aid in the determination of the intermittent channel stream status. Also, NWPs 13, 27 and 39 have specific reporting requirements.]

c. For all Nationwide Permits which allow the use of concrete as a building material, measures will be taken to prevent live or fresh concrete, including bags of uncured concrete, from coming into contact with waters of the state until the concrete has hardened.

d. For all Nationwide Permits that allow for the use of riprap material for bank stabilization, filter cloth must be placed underneath the riprap as an additional requirement of its use in North Carolina waters.

e. For all NWPs that involve the construction of culverts, measures will be included in the construction that will promote the safe passage of fish and other aquatic organisms.
All culverts in the 20 CAMA coastal counties must be buried to a depth of one foot below the



bed of the stream or wetland. For all culvert construction activities, the dimension, pattern, and profile of the stream, (above and below a pipe or culvert), should not be modified by widening the stream channel or by reducing the depth of the stream. Culvert inverts will be buried at least one foot below the bed of the stream for culverts greater than 48 inches in diameter. For culverts 48 inches in diameter or smaller, culverts must be buried below the bed of the stream to a depth equal to or greater than 20 percent of the diameter of the culvert. Bottomless arch culverts will satisfy this condition. A waiver from the depth specifications in this Regional Condition may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with this Regional Condition would result in more adverse impacts to the aquatic environment.

NORTH CAROLINA DIVISION OF WATER QUALITY
GENERAL CERTIFICATION CONDITIONS
GC3361

1. Proposed fill or substantial modification of wetlands or waters (including streams) under this General Certification requires notification to the Division of Water Quality. Two copies shall be submitted to DWQ at the time of notification in accordance with 15A NCAC 2H .0501(a). Written concurrence from DWQ is not required unless any standard conditions of this Certification cannot be met;

2. Appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" or the "North Carolina Surface Mining Manual" whichever is more appropriate (available from the Division of Land Resources (DLR) in the DENR Regional or Central Offices) shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance
with the appropriate turbidity water quality standard;

3. In accordance with 15A NCAC 2H .0506 (h) compensatory mitigation may be required for impacts to 150 linear feet or more of streams and/or one acre or more of wetlands. In addition, buffer mitigation may be required for any project with Buffer Rules in effect at the time of application for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A determination of buffer, wetland and stream mitigation requirements shall be made for any Certification for this Nationwide Permit. The most current design and monitoring protocols from DWQ shall be followed and written plans submitted for DWQ approval as required in those protocols. When compensatory mitigation is required for a project, the mitigation plans must be approved by DWQ in writing before the impacts approved by the Certification occur. The mitigation plan must be implemented and/or constructed before any permanent building or structure on site is occupied. In the case of public road projects, the mitigation plan must be implemented before the road is opened to the traveling public;

4. Compensatory stream mitigation shall be required at a 1:1 ratio for all perennial and intermittent stream impacts equal to or exceeding 150 feet and that require application to DWQ in watersheds classified as ORW, HQW, Tr, WS-I and WS-II;

5. All sediment and erosion control measures placed in wetlands or waters shall be removed and the original grade restored within two months after the Division of Land Resources has released the project;

6. Measures shall be taken to prevent live or fresh concrete from coming into contact with waters of the state until the concrete has hardened;

7. In accordance with North Carolina General Statute Section 143-215.3D(e), any request for written concurrence for a 401 Water Quality Certification must include the appropriate fee. If a project also requires a CAMA Permit, one payment to both agencies shall be submitted and will be the higher of the two fees;

8. Impacts to any stream length in the Neuse, Tar-Pamlico, Randleman and Catawba River Basins (or any other river basins with Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) requires written concurrence from DWQ in accordance with 15A NCAC 2B.0200. Activities listed as "exempt" from these rules do not need to apply for written concurrence under this Certification. New development activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse, Tar-Pamlico, Randleman and Catawba River Basins shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0200. All new development shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices;

9. Additional site-specific conditions may be added to projects for which written concurrence is required or requested under this Certification in order to ensure compliance with all applicable water quality and effluent standards;

10. Concurrence from DWQ that this Certification applies to an individual project shall expire three years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding Nationwide and Regional General Permits, whichever is sooner;

11. When written concurrence is required, the applicant is required to use the most recent version of the Certification of Completion form to notify DWQ when all work included in the 401 Certification has been completed.

NORTH CAROLINA DIVISION OF COASTAL MANAGEMENT
STATE CONSISTENCY

Consistent.

Citations:
2002 Nationwide Permits - Federal Register Notice 15 Jan 2002
2002 Nationwide Permits Corrections - Federal Register Notice 13 Feb 2002
2002 Regional Conditions – Authorized 17 May 2002

FINAL
9-20-99

North Carolina Department of Transportation

Best Management Practices For Bridge Demolition and Removal

The following Best Management Practices for Bridge Demolition and Removal (BMP-BDR) was developed in coordination with the Army Corps of Engineers (COE), the Wildlife Resource Commission, the National Marine Fisheries Service, and others with the goal of establishing a consistent, environmentally sound approach to the demolition and removal of bridges on North Carolina's public road systems. These Practices shall be an addendum to (not a replacement for) NCDOT's Best Management Practices for the Protection of Surface Waters.

The primary objective of these guidelines shall be to protect the water quality and aquatic life of the affected environment in the vicinity of a project. The Department shall use these BMP-BDR consistently on all projects involving bridge removal over a water body.

All projects shall fall into one of the following three categories.

Case 1 - "In water" work is restricted to an absolute minimum, due to the presence of Outstanding Resource Waters (ORW) or Threatened and/or Endangered Species (T&E Species). All work potentially effecting the resource will be carefully coordinated with the agency having jurisdiction.

Case 2 - allows no work at all in the water during moratorium periods associated with fish migration, spawning, and larval recruitment into nursery areas.

Case 3 - there are no special restrictions beyond those outlined in Best Management Practices for Protection of Surface Waters and the supplements added by this document on Bridge Demolition. All three Cases are subject to BMP-BDR's.

It is not the intention of these guidelines to prevent the creativity of the contractor in the removal of the bridge. If the contractor or Resident Engineer devises a means of removal that retains the spirit of these guidelines but does not adhere to the letter, such a means will be considered by the NCDOT Resident Engineer, the NCDOT Natural Systems Specialist, and the federal and/or state agency representative(s). With that caveat in mind, the following guidelines will be applied as appropriate during the construction and demolition stages of a project:

- The **contractor** shall be required to submit a plan for bridge demolition and debris removal to the Resident Engineer, and must receive written approval from the **Resident Engineer** prior to any demolition work beginning.

- If there is a special resource, Case 1 (for example a Threatened or Endangered Species), pointed out in the document, special provisions will apply to both the construction of the new structure and demolition and removal of the old structure. Such special provisions may supersede the guidelines herein.

FINAL
9-20-99

Bridge Shall Be Removed Without Dropping Components Into The Water

- **If a bridge is to be removed in a fashion such that there is a practical alternative to dropping bridge components into the water, that alternative shall be followed.** In the case of a concrete deck, the bridge deck shall be removed by sawing completely through the concrete thickness. Removal may be in sections out between the beams or a cut full length of span between the beams. No part of the structure will be allowed to fall into the water. The concrete shall be removed from the site intact and placed/retained in an upland disposal area.

- If it is determined that components of the bridge must be dropped into the water, all efforts will be made to minimize the overall impact to the surface waters. If the bridge is composed of several spans, the demolition shall occur one span at a time. Components from a given span which have been dropped into the water must be removed from the water before demolition can proceed to the next span.

- If it is determined that components of the bridge must be dropped into the water, any and all asphalt wearing surface shall be removed and not dropped into the water.

- If a CAMA permit is required, dropping any component of a bridge into the water will not be acceptable unless it is proven that there is no feasible alternative. Such an activity would require coordination with and approval of CAMA.

- Every bridge to be removed which is constructed completely of timber shall be removed without dropping components of the bridge into the water. If an unusual circumstance arises where the contractor believes that a bridge component must be dropped into the water, the contractor must alert the Resident Engineer. The Resident Engineer shall coordinate with the Army Corps of Engineers and the Natural Systems Specialist who obtained the permit to discuss the necessary course of action. This is anticipated to be a rare occurrence.

- If the substructure of a bridge includes timber or steel piles, they shall be removed by cutting them off level with surface of the streambed. In no circumstance are the piles to remain above the surface of the streambed. This shall be accomplished in a fashion which minimizes the increase of sediment into the surface waters. As an exception, piles that are in conflict with the proposed piers may be completely removed by pulling. Timber or steel piles will be removed in a fashion that does not allow the pile to fall into the water. In tidal areas it may be necessary to remove the piers completely or to some depth below the substrate because of sand/current movement over time. Such a need will be established in the Greensheet(s) Project Commitments.

Non Shattering Methods

- Every bridge demolition shall be accomplished by non-shattering methods. Shattering means any method which would scatter debris. A wrecking ball is no longer an acceptable tool for bridge removal. Explosives, a "hoe-ram", or other comparable tools may be used in such a fashion that fractures but does not shatter and

scatter bridge components into the water. A possible exception to this rule might be a concrete arch bridge in which case a method shall be found which minimizes impact to the extent practical and feasible. In the case of an exception, the method of demolition will be developed in consultation with the appropriate federal and state agencies.

Use of Explosives

- In the event that there is not a practical alternative to non-shattering, alternate methods of bridge demolition shall be discussed with and approved by the Army Corps of Engineers and other federal and state resource agencies having jurisdiction over the resource.

- *All parties involved recognize that explosives are sometimes required to remove components of a bridge. However, at the present, the proper means of applying those explosives is not agreed upon. The various agencies involved agree that over time, we will come to agreement on the use of explosives in a form that will be included in these BMP's for Bridge Demolition and will not require special consultation.* ***For the present, if it is determined that explosives are required to remove any component of a bridge, that activity shall be coordinated with the Army Corps of Engineers in addition to the state or federal agency with jurisdiction over that particular water.*** *This issue shall be revisited at the earliest time possible to determine appropriate measures to include in these BMP's which shall minimize or eliminate the consultations required in the future.*

General

- Where there are sedimentation concerns the Greensheet Project Commitments may identify the need for turbidity curtains (or similar devices) in the demolition and construction phases of a project in the area of concern to limit the impacts.

- If damage is done to the bank as a result of debris removal, the COE shall be consulted and the bank shall be re-stabilized to natural contours using indigenous vegetation prior to completion of activities in that period of construction.

- If the new bridge does not go back on the original alignment, the banks shall be restored to original contours revegetated with indigenous species as appropriate.

- Any machine operating in an area which could leak engine fluids into the water shall be inspected visually on a daily basis for leakage. If leakage is found, the fluid(s) shall be contained and removed immediately in accordance with applicable state regulations and guidelines, as well as the equipment repaired prior to further use.

- When pumping to de-water a drilled shaft pier, the discharge shall be into an acceptable sediment containment bin to minimize siltation in the water.

Underwood

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

160

Alan W. Klimek, P.E. Director
Division of Water Quality
Coleen Sullins
Division of Water Quality

April 23, 2004
Hyde County
DWQ Project No. 040314
T.I.P. Number B-3348

APPROVAL OF 401Water Quality Certification

Dr. Gregory J. Thorpe, PhD., Manager
Planning and Environmental Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina, 27699-1548

Dear Dr. Thorpe:

You have our approval, as described in your application dated February 23, 2004 and in accordance with the attached conditions and those listed below, to place fill material in 0.48 acres of surface waters, fill 0.2 acres in wetlands and creation of 0.64 acres of wetlands for the purpose of replacing bridge #52 over an unnamed canal and bridge #54 over Kitty Creek on US 264 in Hyde County. The project shall be constructed in accordance with your application dated February 23, 2004 (received March 2, 2004). After reviewing your application, we have decided that General Water Quality Certification Number 3400 covers this fill. This certification corresponds to the Regional Permit Number 198000291 issued by the Corps of Engineers. This approval is also valid for the Tar-Pamlico River Buffer Rules (15A NCAC 2B .0259). In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. This approval will expire with the accompanying 404 permit unless otherwise specified in the Water Quality Certification.

The authorized impacts are as described below:

Station	Wetlands (acres)	Surface Waters (acres)	Created Wetland
11+50-31+00		0.46	
11+00-Y-LT		0.02	
18+80-21+85	0.2		
11+50-31+00			0.64

Station	Zone 1 Impacts (ft^2)	Zone 2 Impacts (ft^2)
21+50-24+20-L	625	1000
29+00-31+00-L	1050	

161

This approval is valid solely for the purpose and design described in your application (unless modified below). Should your project change, you must notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 150 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you must adhere to the conditions listed in the attached certification.

1. All constructed stormwater conveyance outlets shall be directed as diffuse flow at non-erosive velocities through the protected stream buffers such that it will not re-concentrate before discharging into a stream as identified within 15A NCAC 2B .0259 (5).

2. Upon completion of work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return the attached certificate of completion to the 401/Wetlands Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC 27699-1650.

3. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.

4. The post-construction removal of any temporary bridge structures will need to return the project site to its preconstruction contours and elevations. The revegetation of the impacted areas with appropriate native species may also be necessary.

5. Strict adherence the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.

6. The NCDOT will need to adhere to all appropriate in-water work moratoriums (including the use of pile driving or vibration techniques) prescribed by the NC Wildlife Resources Commission, the US Fish and Wildlife Service, and National Marine Fisheries Service.

7. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

8. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.

9. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.

10. Pursuant to NCAC15A 2B.0233(6), sediment and erosion control devices shall not be placed in Zone 1 of any Neuse Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1 anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.

11. All protected riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated with native woody species upon completion of the project construction. A post-construction as-built with the restoration activities included shall be submitted to the DWQ no later than 60 days after the project is closed out by the Department of Transportation.

12. The outside buffer, wetland or water boundary as well as along the construction corridor within these boundaries approved under this authorization shall be clearly marked by orange fabric fencing for the areas that have been approved to infringe within the buffer, wetland or water prior to any land disturbing activities to ensure compliance with 15A NCAC 2B .0250.

If you do not accept any of the conditions of this certification, you may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. To ask for a hearing, send a written petition that conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, P.O. Box 27447, Raleigh, N.C. 27611-7447. This certification and its conditions are final and binding unless you ask for a hearing.

This letter completes the review of the Division of Water Quality under Section 401 of the Clean Water Act. If you have any questions, please contact John Hennessy at 919-733-5694 or Mike Thomas at 252-946-6481.

Sincerely,

Alan W. Klimek, P.E.

Attachments:

cc: Wilmington District Corps of Engineers
Corps of Engineers Washington Field Office
DWQ Washington Regional Office
Cathy Brittingham, DCM
File Copy

c:\ncdot\TIP B3348\wqc\040314wqc.doc

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources
Alan W. Klimek, P.E. Director

163

DWQ Project No.: _____ **County:** _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401/Wetlands Unit, North Carolina Division of Water Quality, 1621 Mail Service Center, Raleigh, NC, 27699-1621. This form may be returned to DWQ by the applicant, the applicant's authorized agent, **or** the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date:_____

Engineer's Certification

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project,for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____

Date _____

WQC #3400
164

CAMA PERMIT CERTIFICATION

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR CORPS OF ENGINEERS GENERAL PERMIT NUMBER 198000291 (ISSUED TO THE NORTH CAROLINA DIVISION OF COASTAL MANAGEMENT AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)

This General Certification is issued in conformity with requirement of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality Regulations in 15 NCAC 2H, Section .0500 and 15 NCAC 2B .0200 for the discharge of fill material as described in General Permit 198000291 and for the Riparian Area Protection Rules (Buffer Rules) in 15A NCAC 2B .0200. This Certification replaces Water Quality Certification Number 3025 issued on September 6, 1995, Water Quality Certification Number 3112 issued on February 11, 1997, Water Quality Certification Number 3274 issued June 1, 2000 and Water Quality Certification Number 3371 issued March 18, 2002. This WQC is rescinded when the Corps of Engineers re-authorizes Regional General Permit 0291 or when deemed appropriate by the Director of DWQ.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with conditions hereinafter set forth.

Conditions of Certification:

1. Activities authorized by CAMA major permits require written concurrence from the Division of Water Quality as well as compliance with all conditions of this General Certification;

2. Activities authorized by Coastal Area Management Act (CAMA) Minor or General Permits do not require written authorization from the Division of Water Quality as long as they comply with all other conditions of this General Certification;

3. In accordance with North Carolina General Statute Section 143-215.3D(e), any request for written concurrence for a 401 Water Quality Certification must include the appropriate fee. If a project also requires a CAMA Permit, one payment to both agencies shall be submitted and will be the higher of the two fees. The fee shall be collected and distributed between the two agencies in accordance with agreements reached between the Division of Water Quality and the Division of Coastal Management;

4. In accordance with 15A NCAC 2H .0506 (h) compensatory mitigation may be required for impacts to 150 linear feet or more of streams and/or one acre or more of wetlands. In addition, buffer mitigation may be required for any project with Buffer Rules in effect at the time of application for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A determination of buffer, wetland and stream mitigation requirements shall be made for any Certification for this Nationwide Permit. The most current design and monitoring protocols from DWQ shall be followed and written plans submitted for DWQ approval as required in those protocols. When compensatory mitigation is required for a project, the mitigation plans must be approved by DWQ in writing before the impacts approved by the Certification occur. The mitigation plan must be implemented and/or constructed before any permanent building or structure on site is occupied. In the case of public road projects, the mitigation plan must be implemented before the road is opened to the travelling public;

5. Compensatory stream mitigation shall be required at a 1:1 ratio for not only perennial but also intermittent stream impacts that require application to DWQ in watersheds classified as ORW, HQW, Tr, WS-I and WS-II unless the project is a linear, publicly-funded transportation project, which has a 150-foot per-stream impact allowance;

6. Impacts to any stream length in the Neuse and Tar-Pamlico River Basins (or any other major river basins with Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) requires written concurrence from DWQ in accordance with 15A NCAC 2B.0200. New development activities

located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse and Tar-Pamlico River Basins shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0200. All new development shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices. Activities listed as "exempt" from these rules do not need to apply for written concurrence under this Certification;

7. All sediment and erosion control measures placed in wetlands or waters shall be removed and the original grade restored after the Division of Land Resources has released the project;

8. If an environmental document is required, this Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse;

9. That appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" or the "North Carolina Surface Mining Manual" whichever is more appropriate (available from the Division of Land Resources (DLR) in the DENR Regional or Central Offices) shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standard;

10. Measures shall be taken to prevent live or fresh concrete from coming into contact with freshwaters of the state until the concrete has hardened;

11. Additional site-specific conditions may be added to projects which have applied for CAMA major permits which are proposed under this Certification in order to ensure compliance with all applicable water quality and effluent standards;

12. When written concurrence is required, the applicant is required to use the most recent version of the Certification of Completion form to notify DWQ when all work included in the 401 Certification has been completed;

13. Concurrence from DWQ that this Certification applies to an individual project shall expire three years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding General Permit 198000291, whichever is sooner.

Non-compliance with or violation of the conditions herein set forth by a specific fill project shall result in revocation of this Certification for the project and may result in criminal and/or civil penalties.

The Director of the North Carolina Division of Water Quality may require submission of a formal application for individual certification for any project in this category of activity that requires written concurrence under this certification, if it is determined that the project is likely to have a significant adverse effect upon water quality or degrade the waters so that existing uses of the wetland or downstream waters are precluded.

Public hearings may be held for specific applications or group of applications prior to a Certification decision if deemed in the public's best interest by the Director of the North Carolina Division of Water Quality.

Effective date: March 2003

DIVISION OF WATER QUALITY
By

Alan W. Klimek
Director

WQC # 3400

WQC #3403

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBER 23 (APPROVED CATEGORICAL EXCLUSIONS) AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)

This General Certification is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality Regulations in 15A NCAC 2H, Section .0500 and 15A NCAC 2B .0200 for the discharge of fill material to waters and wetland areas as described in 33 CFR 330 Appendix A (B) (23) and for the Riparian Area Protection Rules (Buffer Rules) in 15A NCAC 2B .0200. This Certification replaces Water Quality Certification Number 2670 issued on January 21, 1992, Certification Number 2734 issued on May 1 1993, Certification Number 3107 issued on February 11, 1997 and Water Quality Certification Number 3361 issued March 18, 2002. This WQC is rescinded when the Corps of Engineers re-authorizes Nationwide Permit 23 or when deemed appropriate by the Director of the DWQ.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Conditions of Certification:

1. Proposed fill or substantial modification of wetlands or waters (including streams) under this General Certification requires notification to the Division of Water Quality. Two copies shall be submitted to DWQ at the time of notification in accordance with 15A NCAC 2H .0501(a). Written concurrence from DWQ is not required unless any standard conditions of this Certification cannot be met;

2. Appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" or the "North Carolina Surface Mining Manual" whichever is more appropriate (available from the Division of Land Resources (DLR) in the DENR Regional or Central Offices) shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standard;

3. In accordance with 15A NCAC 2H .0506 (h) compensatory mitigation may be required for impacts to 150 linear feet or more of streams and/or one acre or more of wetlands. In addition, buffer mitigation may be required for any project with Buffer Rules in effect at the time of application for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A determination of buffer, wetland and stream mitigation requirements shall be made for any Certification for this Nationwide Permit. The most current design and monitoring protocols from DWQ shall be followed and written plans submitted for DWQ approval as required in those protocols. When compensatory mitigation is required for a project, the mitigation plans must be approved by DWQ in writing before the impacts approved by the Certification occur. The mitigation plan must be implemented and/or constructed before any permanent building or structure on

site is occupied. In the case of public road projects, the mitigation plan must be implemented before the road is opened to the travelling public;

4. Compensatory stream mitigation shall be required at a 1:1 ratio for not only perennial but also intermittent stream impacts equal to or exceeding 150 feet and that require application to DWQ in watersheds classified as ORW, HQW, Tr, WS-I and WS-II unless the project is a linear, publicly-funded transportation project, which has a 150-foot per-stream impact allowance;

5. All sediment and erosion control measures placed in wetlands or waters shall be removed and the original grade restored within two months after the Division of Land Resources has released the project;

6. Measures shall be taken to prevent live or fresh concrete from coming into contact with freshwaters of the state until the concrete has hardened;

7. In accordance with North Carolina General Statute Section 143-215.3D(e), any request for written concurrence for a 401 Water Quality Certification must include the appropriate fee. If a project also requires a CAMA Permit, one payment to both agencies shall be submitted and will be the higher of the two fees;

8. Impacts to any stream length in the Neuse, Tar-Pamlico, Randleman and Catawba River Basins (or any other river basins with Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) requires written concurrence from DWQ in accordance with 15A NCAC 2B.0200. Activities listed as "exempt" from these rules do not need to apply for written concurrence under this Certification. New development activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse, Tar-Pamlico, Randleman and Catawba River Basins shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0200. All new development shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices;

9. Additional site-specific conditions may be added to projects for which written concurrence is required or requested under this Certification in order to ensure compliance with all applicable water quality and effluent standards;

10. Concurrence from DWQ that this Certification applies to an individual project shall expire three years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding Nationwide and Regional General Permits, whichever is sooner;

11. When written concurrence is required, the applicant is required to use the most recent version of the Certification of Completion form to notify DWQ when all work included in the 401 Certification has been completed.

Non-compliance with or violation of the conditions herein set forth by a specific fill project shall result in revocation of this Certification for the project and may result in criminal and/or civil penalties.

WQC #3403

The Director of the North Carolina Division of Water Quality may require submission of a formal application for individual certification for any project in this category of activity that requires written concurrence under this certification, if it is determined that the project is likely to have a significant adverse effect upon water quality or degrade the waters so that existing uses of the wetland, stream or downstream waters are precluded.

Public hearings may be held for specific applications or group of applications prior to a Certification decision if deemed in the public's best interest by the Director of the North Carolina Division of Water Quality.

Effective date: March 2003

DIVISION OF WATER QUALITY

By

Alan W. Klimek, P.E.

Director

WQC # 3403

169

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P. E. Director
Division of Water Quality
Coleen H. Sullins, Deputy Director
Division of Water Quality

DIVISION OF WATER QUALITY
June 30, 2004

NC Dept of Transportation
Attn: Mr. R.C. Henegar
1590 Mail Service Center
Raleigh, NC 27699

Subject: Stormwater Permit No. SW7040508
Bridge Replacement (B-3348)
Wallace Canal, No. 52 and
Kitty Creek, No. 54
General Stormwater Permit
Hyde County

Dear Mr. Henegar:

The Washington Regional Office received the completed Stormwater Application and supporting information on June 30, 2004. Staff review of the plans and specifications has determined that the project, as proposed, will comply with the Stormwater Regulations set forth in Title 15A NCAC 2H.1000. We are forwarding Permit No. SW7040508 dated June 30, 2004 to the NC Department of Transportation.

This permit shall be effective from the date of issuance until rescinded and shall be subject to the conditions and limitations as specified therein. Any future development at this site will require an additional Stormwater review and a permit for any Stormwater control measures deemed appropriate.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within thirty (30) days following receipt of this permit. This request must be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the office of Administrative Hearings, P.O. Drawer 27447, Raleigh, NC 27611-7447. Unless such demands are made this permit shall be final and binding.

170

If you have any questions, or need additional information concerning this matter, please contact Bill Moore at (252) 946-6481, extension, 264.

Sincerely,

for Jim Mulligan
Water Quality Regional Supervisor
Washington Regional Office

cc: Doug Huggett - DCM, Raleigh, NC
Washington Regional Office
Central Files

171

State Stormwater Management Systems
Permit No. SW7040508

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY

STATE STORMWATER MANAGEMENT PERMIT

GENERAL PERMIT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations

PERMISSION IS HEREBY GRANTED TO

NC Department of Transportation
Hyde County

FOR THE

construction, operation and maintenance of stormwater management systems in compliance with the provisions of 15A NCAC 2H.1000 (hereafter referred to as the *"stormwater rules"*) and the approved stormwater management plans and specifications, and other supporting data as attached and on file with and approved by the Division of Water Quality and considered a part of this permit for BMP measures that divert drainage to vegetated slopes from Bridge No. 52 and 54 located off US 264 near Englehard, NC.

The Permit shall be effective from the date of issuance until rescinded and shall be subject to the following specific conditions and limitations.

I. DESIGN STANDARDS

1. This project involves the replacement of Bridge No. 52 and 54 located near Englehard, NC. BMP measures will divert roadway drainage to grassed slopes on either side of the receiving streams. Direct stormwater discharges and wetland impacts have been minimized.

2. Approved plans and specifications for projects covered by this permit are incorporated by reference and are enforceable parts of the permit.

3. No stormwater piping in addition to the existing piping shall be allowed except:

a. That minimum amount necessary to direct runoff beneath an impervious surface such as a road.
b. That minimum amount needed under driveways to provide access to lots.

II. SCHEDULE OF COMPLIANCE

1. Grasslined swales, vegetated buffers and other Best Management Practices used for stormwater runoff control shall be adequately maintained throughout the life of the project.

2. The permittee shall at all times provide adequate erosion control measures in conformance with the approved Erosion Control Plan.

3. The permittee shall submit all information requested by the Director or his representative within the time frame specified in the written information request.

III. GENERAL CONDITIONS

1. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to an enforcement action by the Division of Water Quality, in accordance with North Carolina General Statutes 143-215.6A to 143.215.6C.

2. The permit may be modified, revoked or terminated for cause. The filing of a request for a permit modification, or termination does not void any permit condition.

3. The issuance of this permit does not prohibit the Director from reopening and modifying laws, rules, and regulations contained in Title 15A of the North Carolina Administrative Code, Subchapter 2H.1000; and North Carolina General Statute 143-215.1 et.al.

4. The following items will require a modification to the permit:

   a. Any revision to the approved plans, regardless of size
   b. Project name change
   c. Change of ownership
   d. Redesign or addition to the approved amount of built-upon area.
   e. Further subdivision of the project area

f. In addition, the Director may determine that other revisions to the project should require a modification to the permit.

5. For any additions or modifications of the previously permitted built-upon area, the permittee shall submit to the Director revised plans and specifications and shall receive approval prior to construction.

6. The Director may notify the permittee when the permitted site does not meet one or more of the minimum requirements of the permit. Within the time frame specified in the notice, the permittee shall submit a written time schedule to the Director for modifying the site to meet minimum requirements. The permittee shall provide copies of revised plans and certification in writing to the Director that the changes have been made.

7. The permit is not transferable to any person except after notice to and approval by the Director. The Director may require modification or revocation and reissuance of the permit to change the name and incorporate such other requirements as may be necessary. A formal permit request must be submitted to the Division of Water Quality accompanied by the appropriate fee, documentation from both parties involved, and other supporting materials as may be appropriate. The approval of this request will be considered on its merits, and may or may not be approved.

8. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by other government agencies (local, state and federal) which have jurisdiction.

Permit issued this the 30 th day of June, 2004.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

for Alan W. Klimek, PE, Director
Division of Water Quality
By Authority of the Environmental Management Commission

Permit Number SW7040508

174

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

April 29, 2004

Division of Coastal Management
1367 U.S. 17 South
Elizabeth City, NC 27909

ATTENTION: Ms. Lynn Mathis
NCDOT Coordinator

Dear Madam:

Subject: **CAMA Major Permit Application** for the Replacement of Bridge No. 52 over Wallace Canal and Bridge No. 54 over Kitty Creek on US 264, Hyde County. Federal Aid Project No. BRSTP-264(9), State Project No. 8.1080601, TIP Project No. B-3348. Debit work Order 8.1080601, WBS Element 33006.1.1 for $400.00.

This resubmittal of the Coastal Area Management Act (CAMA) major permit application is in response to the deficiency letter dated March 9, 2004 and to the subsequent email from Lynn Mathis dated March 24, 2004. Please find enclosed the CAMA major permit application, permit drawings, half-size plans, and the green cards for the above-mentioned project. The Categorical Exclusion for this project was attached to the previously sent application dated February 23, 2004. Work Order 8.1080601 will be debited for $400.00 for the application of the subject project. Bridge No. 52 over Wallace Canal and Bridge No. 54 over Kitty Creek (DEM Index # 29-70-3, Class SC HQW) on US 264 in Hyde County will be replaced with new bridges approximately 17 feet southeast of the existing bridges. The proposed structures for Bridge Nos. 52 and 54 will provide a 22-foot travel-way with seven-foot shoulders for a total clear structure width of 36 feet. The bridge approach will have a 22-foot travel-way with six-foot shoulders of which four feet would be paved for bicyclists. The design speed will be 55 mph. The preferred alternative involves staged, simultaneous construction. This will allow one-lane, two-way traffic during construction.

The slight shift to the southeast will allow the proper approach width and construction area necessary to utilize staged construction and maintain traffic without a temporary on-site detour. As a result of the shift, there will be 0.26 acres of permanent impacts to brackish marsh and 0.48 acres of fill in surface water.

A portion of a canal on the east side of the project will be filled in order to provide area for the shifted roadway. To mitigate for this, NCDOT agreed to place three 24-inch pipes under an adjacent road that leads to a North Carolina Wildlife Resources Commission boat ramp. These

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

pipes will be buried one foot and re-establish a hydrological connection to either side of the road. The permit drawings and plans currently show two 15-inch pipes. This will be corrected during the construction phase of the project.

Kitty Creek is located in the Tar-Pamlico River Basin. The Division of Water Quality (DWQ) has assigned Kitty Creek a Stream Index Number of 29-70-3. DWQ has assigned a best usage classification **SC HQW**. There is also Wallace Canal that crosses Bridge No. 52. The unnamed tributary has the same best usage classification as Kitty Creek.

Class **SC** waters are defined as saltwaters protected for aquatic life propagation and survival, wildlife, and secondary recreation. The **HQW** (High Quality Waters) are waters which are rated as excellent based on biological and chemical/physical characteristics.

Bridge Demolition

Bridge Demolition: Bridges Nos. 52 and 54 are two lane structures with reinforced concrete caps on timber piles supporting a reinforced concrete deck on timber joists. Bridge No. 52 is 34 feet long with a 26.1-foot clear roadway width. Bridge No. 54 is 53 feet long with a 26.1-foot clear roadway width. Due to the structural components of the bridges, there is the possibility of 41.6 cubic yards for Bridge No. 52 and 56.8 cubic yards being dropped into the "Waters of the United States". All measures will be taken to avoid any temporary fill from entering Waters of the U.S. Best Management Practices for Bridge Demolition and Removal will be implemented.

As noted in the project's CE document, NCDOT will observe an in-stream construction moratorium from March 1 to September 30.

Avoidance and Minimization

Due to the location of this project and the juxtaposition of adjacent wetlands and surface waters, total avoidance of the surrounding marsh and surface water is not possible. NCDOT has taken steps to minimize the impacts to this resource.

Bridges No. 52 and 54 are on a primary U. S. Route. Therefore, traffic flow must be maintained throughout construction. Road closure during construction is unfeasible due to the lack of a suitable off-site detour. A temporary on-site detour that would have affected a brackish marsh complex was rejected in favor of staged construction. Staged construction will allow one lane to remain open to traffic during construction while minimizing necessary encroachment into the surrounding wetlands and surface waters.

Bridge No. 54 has been lengthened from 85 feet to 180 feet, allowing approximately 95 feet of former causeway to be restored to wetland elevation. Additionally, the abandoned causeway (from the 17-foot shift) will be restored to wetland elevation and replanted with native brackish marsh plants.

Minimum width for the approaches and structure has been utilized.

Summary of Impacts

Wetlands: The total amount of wetland impacted is 0.26 acres from roadway fill and undercut.

Surface Waters: The amount of fill in surface waters is 0.46 acres and fill in a pond is 0.02 acres.

Buffer Impacts: The amount of impacts to Zone 1 is 1675 sq. ft. and the amount of impacts to Zone 2 is 1000 sq. ft.

Mitigation: Due to the amount of wetland created by the 17-foot shift, NCDOT is not requesting the EEP to provide mitigation. The shift in alignment to the southeast will allow 0.64 acres of previously filled, coastal wetlands to be restored. The net gain in coastal wetlands for this project is 0.38 acres.

Protected Species

Some populations of fauna and flora have been in, or are in, the process of decline either due to natural forces or their inability to co-exist with human activities. Federal law (under the provisions of the Endangered Species Act (ESA) of 1973, as amended) requires that any action likely to adversely affect a species classified as federally protected be subject to review by the United States Fish and Wildlife Service (USFWS). Other species may receive additional protection under separate state laws. Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE) and Proposed Threatened (PT) are protected under provisions of ESA §§7 and 9, as amended.

As of January 29, 2003, the US Fish and Wildlife Service (USFWS) lists 13 federally protected species for Hyde County. Table 1 depicts these species. The biological conclusion of **No Effect** remains valid.

Table 1. Federally Protected Species in Hyde County.

Common Name	Scientific Name	Status	Bio. Conclusion
Leatherback sea turtle	*Dermochelys coriacea*	E	No Effect
Hawksbill sea turtle	*Eretomochelys imbricata*	E	No Effect
Kemp's Ridley sea turtle	*Lepidochelys kempii*	E	No Effect
Red-cockaded woodpecker	*Picoides borealis*	E	No Effect
Manatee	*Trichecus manatus*	E	No Effect
Sensitive joint-vetch	*Aeschynomene virginica*	T	No Effect
Seabeach amaranth	*Amaranthus pumilus*	T	No Effect
Loggerhead sea turtle	*Caretta caretta*	T	No Effect
Piping plover	*Charadrius melodus*	T	No Effect
Green sea turtle	*Chelonia mydas*	T	No Effect
Bald Eagle	*Haliaeetus leucocephalus*	T	No Effect
American alligator	*Alligator mississippiensis*	T	No Effect
Red wolf	*Canis rufus*	EXP	N/A

Regulatory Approval

NCDOT requests that the proposed work be authorized under a Coastal Area Management Act Major Development Permit. Copies of the green cards are attached. NCDOT has also applied

for the issuance of a United States Army Corps of Engineers NWP 23, a 401 Water Quality Certification, and a Riparian Buffer Authorization under separate cover.

A copy of this permit application will be posted on the DOT website at: http://www.ncdot.org/planning/pe/naturalunit/Permit.html.

If you have any questions or need additional information, please contact Chris Underwood at (919) 715-1451.

Sincerely,

Gregory J. Thorpe, Ph.D. Environmental Management Director
Project Development and Environmental Analysis

w/ attachment:

Mr. John Hennessy, DWQ Raleigh
Ms. Cathy Brittingham, DCM
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Mr. Jay Bennett, P.E., Roadway Design
Mr. Omar Sultan, Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. John Sullivan, FHWA
Mr. D.R. Conner, P.E., Division Engineer
Mr. Clay Willis, DEO
Mr. David Franklin, USACE, Wilmington
Ms. Stacy Baldwin, P.E., Project Planning Engineer

Form DCM-MP-1

178

APPLICATION

(To be completed by all applicants)

1. APPLICANT

a. Landowner:

Name N. C. Department of Transportation

Address 1548 Mail Service Center

City Raleigh State NC

Zip 27699-1548 Day Phone 919-733-3141

Fax 919-733-9794

b. Authorized Agent:

Name Phil Harris, PE

Address Same as above

City _____ State _____

Zip _____ Day Phone _____

Fax _____

c. Project name (if any) **B-3348 Bridge # 52 & Bridge # 54 over Kitty Creek on US 264**

NOTE: Permit will be issued in name of landowner(s), and/or project name.

2. LOCATION OF PROPOSED PROJECT

a. County: Hyde

b. City, town, community or landmark Englehard

c. Street address or secondary road number US 264

d. Is proposed work within city limits or planning jurisdiction? _ Yes X No

e. Name of body of water nearest project (e.g. river, creek, sound, bay) Pamlico Sound

3. DESCRIPTION AND PLANNED USE OF PROPOSED PROJECT

a. List all development activities you propose (e.g. building a home, motel, marina, bulkhead, pier, and excavation and/or filling activities.

Replace existing bridges with new ones with a slight alignment change to the southeast

b. Is the proposed activity maintenance of an existing project, new work, or both? **New Work**

c. Will the project be for public, private or commercial use? Public

Give a brief description of purpose, use, methods of construction and daily operations of proposed project. If more space is needed, please attach additional pages. To replace old structures.

4. LAND AND WATER CHARACTERISTICS

a. Size of entire tract N/A

b. Size of individual lot(s) N/A

c. Approximate elevation of tract above (MHW) or NWL
1.8' (existing bridge)

d. Soil type(s) and texture(s) of tract
sand, clayey sand

e. Vegetation on tract brackish marsh, scattered pines, small trees, and roadside grasses

f. Man-made features now on tract
existing bridges, roadway, and utilities.

g. What is the CAMA Land Use Plan land classification of the site? *(Consult the local land use plan.)*

X Conservation	____ Transitional
____ Developed	____ Community
X Rural	____ Other

h. How is the tract zoned by local government?
N/A

i. Is the proposed project consistent with the applicable zoning? X Yes ____ No
(Attach zoning compliance certificate, if applicable)

j. Has a professional archaeological assessment been done for the tract? X Yes ____ No
If yes, by whom? NCDOT

k. Is the project located in a National Registered Historic District or does it involve a National Register listed or eligible property?
____ Yes X No

l. Are there wetlands on the site? X Yes ____ No
Coastal (marsh) X Other X
If yes, has a delineation been conducted? yes
(Attach documentation, if available)

m. Describe existing wastewater treatment facilities.
N/A

n. Describe location and type of discharges to waters of the state. (For example, surface runoff, sanitary wastewater, industrial/commercial effluent, "wash down" and residential discharges.) surface runoff

o. Describe existing drinking water supply source.
N/A

5. ADDITIONAL INFORMATION

In addition to the completed application form, the following items must be submitted:

- **A copy of the deed** (with state application only) or other instrument under which the applicant claims title to the affected properties. If the applicant is not claiming to be the owner of said property, then forward a copy of the deed or other instrument under which the owner claims title, plus written permission from the owner to carry out the project.

- **An accurate, dated work plat** (including plan view and cross-sectional drawings) drawn to scale in black ink on an 8 1/2" by 11" white paper. (Refer to Coastal Resources Commission Rule 7J.0203 for a detailed description.)

  Please note that original drawings are preferred and only high quality copies will be accepted. Blue-line prints or other larger plats are acceptable only if an adequate number of quality copies are provided by applicant. (Contact the U.S. Army Corps of Engineers regarding that agency's use of larger drawings.) A site or location map is a part of plat requirements and it must be sufficiently detailed to guide agency personnel unfamiliar with the area to
  the site. Include highway or secondary road (SR) numbers, landmarks, and the like.

- **A Stormwater Certification,** if one is necessary.

- A list of the **names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail.** Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management. Upon signing this form, the applicant further certifies that such notice has been provided.

Name See attached list
Address _____
Phone _____

Name _____
Address _____
Phone _____

Name _____
Address _____
Phone _____

- **A list of previous state or federal permits** issued for work on the project tract. Include permit numbers, permittee, and issuing dates.

_____

- **A check for $400** made payable to the Department of Environment, Health, and Natural Resources (DEHNR) to cover the costs of processing the application.

- **A signed AEC hazard notice** for projects in oceanfront and inlet areas.

- **A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A - 1 to 10)** If the project involves the expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

6. CERTIFICATION AND PERMISSION TO ENTER ON LAND

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to conditions and restrictions contained in the permit.

I certify that to the best of my knowledge, the proposed activity complies with the State of North Carolina's approved Coastal Management Program and will be conducted in a manner consistent with such program.

I certify that I am authorized to grant, and do in fact, grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

This is the 26 day of April, 19~~9~~2004.

Print Name Philip S. Harris III

Signature _____
Landowner or Authorized Agent

Please indicate attachments pertaining to your proposed project.

_X_ DCM MP-2 Excavation and Fill Information
____ DCM MP-3 Upland Development
____ DCM MP-4 Structures Information
_X_ DCM MP-5 Bridges and Culverts
____ DCM MP-6 Marina Development

NOTE: Please sign and date each attachment in the space provided at the bottom of each form.

Form DCM-MP-2

181

EXCAVATION AND FILL

(Except bridges and culverts)

Attach this form to Joint Application for CAMA Major Permit, Form DCM-MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project.

Describe below the purpose of proposed excavation or fill activities. **All values to be given in feet.**

	Length	Width	Average Existing Depth	Final Project Depth
Access channel (MLW) or (NWL)				
Canal				
Boat basin				
Boat ramp				
Rock groin				
Rock breakwater				
Other fill in wetlands (Excluding shoreline stabilization)	719 ft.	16ft.		
	876 ft.	16 ft.		

Fill in Bad Waters

1. EXCAVATION

a. Amount of material to be excavated from below (MHW) or NWL in cubic yards 97

b. Type of material to be excavated existing road (pavement,dirt)

c.

c. Does the area to be excavated include coastal wetlands (marsh), submerged aquatic vegetation (SAVs) or other wetlands? X Yes ___ No

d. High ground excavation in cubic yards 1381 700 @ bridge & 681 to restore wetlands

2. DISPOSAL OF EXCAVATED MATERIAL

a. Location of disposal area to be determined by contractor

b. Dimensions of disposal area N/A

c. Do you claim title to disposal area?
___ Yes X No
If no, attach a letter granting permission from the owner.

d. Will a disposal area be available for future maintenance? ___ Yes ___ No N/A

e. Does the disposal area include any coastal wetlands (marsh), SAVs or other wetlands?
___ Yes __X__ No

f. Does the disposal include any area in the water?
___ Yes __X__ No

3. SHORELINE STABILIZATION N/A

a. Type of shoreline stabilization
_____ Bulkhead _____ Riprap

b. Length _____

c. Average distance waterward of MHW or NWL
_____

d. Maximum distance waterward of MHW or NWL
_____

e. Shoreline erosion during preceding 12 months
_____
(Source of information) _____

f. Type of bulkhead or riprap material _____
_____

g. Amount of fill in cubic yards to be placed below water level
(1) Riprap _____
(2) Bulkhead backfill _____

h. Type of fill material _____
_____

i. Source of fill material _____
_____

4. OTHER FILL ACTIVITIES

(Excluding Shoreline Stabilization)

a. Will fill material be brought to site?
__X__ Yes ___ No

If yes,
(1) Amount of material to be placed in the water _____
(2) Dimensions of fill area _____
see permit application
(3) Purpose of fill Proposed roadway, bridges
_____

b. Will fill material be placed in coastal wetlands (marsh), SAVs or other wetlands?
__X__ Yes _____ No
If yes,
(1) Dimensions of fill area See MP5 3.a.1.
(2) Purpose of fill _____
_____

5. GENERAL

a. How will excavated or fill material be kept on site and erosion controlled? _____
NCDOT High Quality Erosion Control Methods Will be used
_____

b. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?
Standard heavy highway construction equipment
_____

c. Will wetlands be crossed in transporting equipment to project site? ___ Yes __X__ No
If yes, explain steps that will be taken to lessen environmental impacts. _____
_____
_____

Philip S. Harris III
Applicant or Project Name

Signature

4/26/04
Date

Form DCM-MP-5

183

BRIDGES AND CULVERTS

Attach this form to Joint Application for CAMA Major Permit, Form DCM-MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project.

1. BRIDGES

a. Public ___X___ Private _____

b. Type of bridge (construction material)
Concrete prestressed girder

c. Water body to be crossed by bridge
Kitty Creek Bridge # 54

d. Water depth at the proposed crossing at MLW or +/- 6.0 feet

e. Will proposed bridge replace an existing bridge?
___x___ Yes _____ No
If yes,
(1) Length of existing bridge 53 ft.
(2) Width of existing bridge 28.2 ft.
(3) Navigation clearance underneath existing bridge +/- 2.0 ft.
(4) Will all, or a part of, the existing bridge be removed? (Explain)
All the existing bridges will be removed and replaced with new bridges

f. Will proposed bridge replace an existing culvert(s)?
_____ Yes ___x___ No
If yes,
(1) Length of existing culvert _____
(2) Width of existing culvert _____
(3) Height of the top of the existing culvert above the MHW or NWL _____
(4) Will all, or a part of, the existing culvert be removed? (Explain) _____

g. Length of proposed bridge 200 ft.

h. Width of proposed bridge 36 ft.

i. Height of proposed bridge above wetlands
2-3 ft.

j. Will the proposed bridge affect existing water flow?
_____ Yes ___x___ No
If yes, explain _____

k. Navigation clearance underneath proposed bridge
+/- 3 ft.

l. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? ___x___ Yes _____ No
If yes, explain Navigable opening will be increased.

m. Will the proposed bridge cross wetlands containing no navigable waters? _____ Yes ___x___ No
If yes, explain _____

n. Have you contacted the U.S. Coast Guard concerning their approval?
_____ Yes _____ No N/A
If yes, please provide record of their action.

2. CULVERTS

a. Water body in which culvert is to be placed _____

b. Number of culverts proposed _____

c. Type of culvert (construction material, style) _____

d. Will proposed culvert replace an existing bridge?
___ Yes ___ No
If yes,
(1) Length of existing bridge _____
(2) Width of existing bridge _____
(3) Navigation clearance underneath existing bridge _____
(4) Will all, or a part of, the existing bridge be removed? (Explain) _____

e. Will proposed culvert replace an existing culvert?
___ Yes ___ No
If yes,
(1) Length of existing culvert _____
(2) Width of existing culvert _____
(3) Height of the top of the existing culvert above the MHW or NWL _____
(4) Will all, or a part of, the existing culvert be removed? (Explain) _____

f. Length of proposed culvert _____

g. Width of proposed culvert _____

h. Height of the top of the proposed culvert above the MHW or NWL _____

i. Will the proposed culvert affect existing water flow?
___ Yes ___ No
If yes, explain _____

j. Will the proposed culvert affect existing navigation potential? ___ Yes ___ No
If yes, explain _____

3. EXCAVATION AND FILL

a. Will the placement of the proposed bridge or culvert require any excavation below the MHW or NWL?
__x__ Yes ___ No
If yes,
(1) Length of area to be excavated 550'
(2) Width of area to be excavated 33'
(3) Depth of area to be excavated 7'
(4) Amount of material to be excavated in cubic yards 4706

b. Will the placement of the proposed bridge or culvert require any excavation within:
__x__ Coastal Wetlands ___ SAVs ___ Other Wetlands
If yes,
(1) Length of area to be excavated 550'
(2) Width of area to be excavated 25'
(3) Amount of material to be excavated in cubic yards 3056

c. Will the placement of the proposed bridge or culvert require any highground excavation?
__x__ Yes ___ No
If yes,
(1) Length of area to be excavated 157 ft.
(2) Width of area to be excavated 40 ft.
(3) Amount of material to be excavated in cubic yards 700

d. If the placement of the bridge or culvert involves any excavation, please complete the following:
(1) Location of the spoil disposal area
To be determined by contractor
(2) Dimensions of spoil disposal area
N/A
(3) Do you claim title to the disposal area?
___ Yes __x__ No
If no, attach a letter granting permission from the owner.
(4) Will the disposal area be available for future maintenance? ___ Yes __x__ No
(5) Does the disposal area include any coastal wetlands (marsh), SAVs, or other wetlands?
___ Yes __x__ No
If yes, give dimensions if different from (2) above. _____

(6) Does the disposal area include any area below the MHW or NWL? ___ Yes _x_ No
If yes, give dimension if different from No. 2 above. _____

e. Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d. above) to be placed below MHW or NWL? _x_ Yes ___ No
If yes,
(1) Length of area to be filled 1385 ft.
(2) Width of area to be filled 20 ft.
(3) Purpose of fill To restore coastal wetlands

f. Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d. above) to be placed within:
_x_ Coastal Wetlands ___ SAVs ___ Other Wetlands If yes,
(1) Length of area to be filled 719 ft.
(2) Width of area to be filled 16 ft.
(3) Purpose of fill Roadway fill

g. Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d. above) to be placed on highground? _x_ Yes ___ No
If yes,
(1) Length of area to be filled 2130 ft.
(2) Width of area to be filled 56 ft.
(3) Purpose of fill Roadway fill

4. GENERAL

a. Will the proposed project involve any mitigation?
___ Yes ___ No
If yes, explain in detail _____

b. Will the proposed project require the relocation of any existing utility lines? ___ Yes ___ No
If yes, explain in detail _____

c. Will the proposed project require the construction of any temporary detour structures?
___ Yes _x_ No
If yes, explain in detail _____

d. Will the proposed project require any work channels? ___ Yes _x_ No
If yes, complete Form DCM-MP-2

e. How will excavated or fill material be kept on site and erosion controlled? NCDOT High Quality Waters Erosion Control Methods will be used

f. What type of construction equipment will be used (for example, dragline, backhoe or hydraulic dredge)? Heavy highway construction equipment

g. Will wetlands be crossed in transporting equipment to project site? ___ Yes _x_ No
If yes, explain steps that will be taken to lessen environmental impacts. _____

h. Will the placement of the proposed bridge or culvert require any shoreline stabilization?
___ Yes _x_ No
If yes, explain in detail _____

Philip S. Harris III
Applicant or Project Name

PSH
Signature

4/26/04
Date

Form DCM-MP-5

186

BRIDGES AND CULVERTS

Attach this form to Joint Application for CAMA Major Permit, Form DCM-MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project.

1. BRIDGES

a. Public ___X___ Private _____

b. Type of bridge (construction material)
Concrete prestressed girder

c. Water body to be crossed by bridge
Wallace Canal Bridge # 52

d. Water depth at the proposed crossing at MLW or +/- 6.0 feet

e. Will proposed bridge replace an existing bridge?
__x__ Yes ____ No
If yes,
(1) Length of existing bridge 34 ft.
(2) Width of existing bridge 29.4 ft.
(3) Navigation clearance underneath existing bridge +/- 2.0 ft.
(4) Will all, or a part of, the existing bridge be removed? (Explain)
All the existing bridges will be removed and replaced with new bridges

f. Will proposed bridge replace an existing culvert(s)?
____ Yes __x__ No
If yes,
(1) Length of existing culvert _____
(2) Width of existing culvert _____
(3) Height of the top of the existing culvert above the MHW or NWL _____
(4) Will all, or a part of, the existing culvert be removed? (Explain) _____

g. Length of proposed bridge 50 ft.

h. Width of proposed bridge 36 ft.

i. Height of proposed bridge above wetlands
2-3 ft.

j. Will the proposed bridge affect existing water flow?
____ Yes __x__ No
If yes, explain _____

k. Navigation clearance underneath proposed bridge
+/- 3 ft.

l. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? __x__ Yes ____ No
If yes, explain Navigable opening will be increased.

m. Will the proposed bridge cross wetlands containing no navigable waters? ____ Yes __x__ No
If yes, explain _____

n. Have you contacted the U.S. Coast Guard concerning their approval? N/A
____ Yes ____ No
If yes, please provide record of their action.

2. CULVERTS

a. Water body in which culvert is to be placed _____

b. Number of culverts proposed _____

c. Type of culvert (construction material, style) _____

d. Will proposed culvert replace an existing bridge?
___ Yes ___ No
If yes,
(1) Length of existing bridge _____
(2) Width of existing bridge _____
(3) Navigation clearance underneath existing bridge _____
(4) Will all, or a part of, the existing bridge be removed? (Explain) _____

e. Will proposed culvert replace an existing culvert?
___ Yes ___ No
If yes,
(1) Length of existing culvert _____
(2) Width of existing culvert _____
(3) Height of the top of the existing culvert above the MHW or NWL _____
(4) Will all, or a part of, the existing culvert be removed? (Explain) _____

f. Length of proposed culvert _____

g. Width of proposed culvert _____

h. Height of the top of the proposed culvert above the MHW or NWL _____

i. Will the proposed culvert affect existing water flow?
___ Yes ___ No
If yes, explain _____

j. Will the proposed culvert affect existing navigation potential? ___ Yes ___ No
If yes, explain _____

3. EXCAVATION AND FILL

a. Will the placement of the proposed bridge or culvert require any excavation below the (MHW) or NWL?
x Yes ___ No
If yes,
(1) Length of area to be excavated 700'
(2) Width of area to be excavated 33'
(3) Depth of area to be excavated 7'
(4) Amount of material to be excavated in cubic yards 5988

b. Will the placement of the proposed bridge or culvert require any excavation within:
x Coastal Wetlands ___ SAVs ___ Other Wetlands
If yes,
(1) Length of area to be excavated 400'
(2) Width of area to be excavated 25'
(3) Amount of material to be excavated in cubic yards 2223

c. Will the placement of the proposed bridge or culvert require any highground excavation?
x Yes ___ No
If yes,
(1) Length of area to be excavated 157 ft.
(2) Width of area to be excavated 40 ft.
(3) Amount of material to be excavated in cubic yards 700

d. If the placement of the bridge or culvert involves any excavation, please complete the following:
(1) Location of the spoil disposal area
To be determined by contractor
(2) Dimensions of spoil disposal area
N/A
(3) Do you claim title to the disposal area?
___ Yes x No
If no, attach a letter granting permission from the owner.
(4) Will the disposal area be available for future maintenance? ___ Yes x No
(5) Does the disposal area include any coastal wetlands (marsh), SAVs, or other wetlands?
___ Yes x No
If yes, give dimensions if different from (2). above. _____

(6) Does the disposal area include any area below the MHW or NWL? ___ Yes _x_ No
If yes, give dimension if different from No. 2 above. _____

e. Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d. above) to be placed below (MHW) or NWL? _x_ Yes ___ No
If yes,
(1) Length of area to be filled 1385 ft.
(2) Width of area to be filled 20 ft.
(3) Purpose of fill To restore coastal wetlands

f. Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d. above) to be placed within:
_x_ Coastal Wetlands ___ SAVs ___ Other Wetlands If yes,
(1) Length of area to be filled 719 ft.
(2) Width of area to be filled 16 ft.
(3) Purpose of fill Roadway fill - see sheet 5 of 7

g. Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d. above) to be placed on highground? _x_ Yes ___ No
If yes,
(1) Length of area to be filled 2130 ft.
(2) Width of area to be filled 56 ft.
(3) Purpose of fill Roadway fill

d. Will the proposed project require any wor channels? ___ Yes _x_ No
If yes, complete Form DCM-MP-2

e. How will excavated or fill material be kept on sit and erosion controlled? NCDOT High Qualit Waters Erosion Control Methods will be used

f. What type of construction equipment will be use (for example, dragline, backhoe or hydrauli dredge)? Heavy highway construction equipment

g. Will wetlands be crossed in transporting equipmen to project site? ___ Yes _x_ No
If yes, explain steps that will be taken to lesse environmental impacts. _____

h. Will the placement of the proposed bridge or culver require any shoreline stabilization?
___ Yes _x_ No
If yes, explain in detail _____

Philip S. Harris III
Applicant or Project Name

Signature

4/26/04
Date

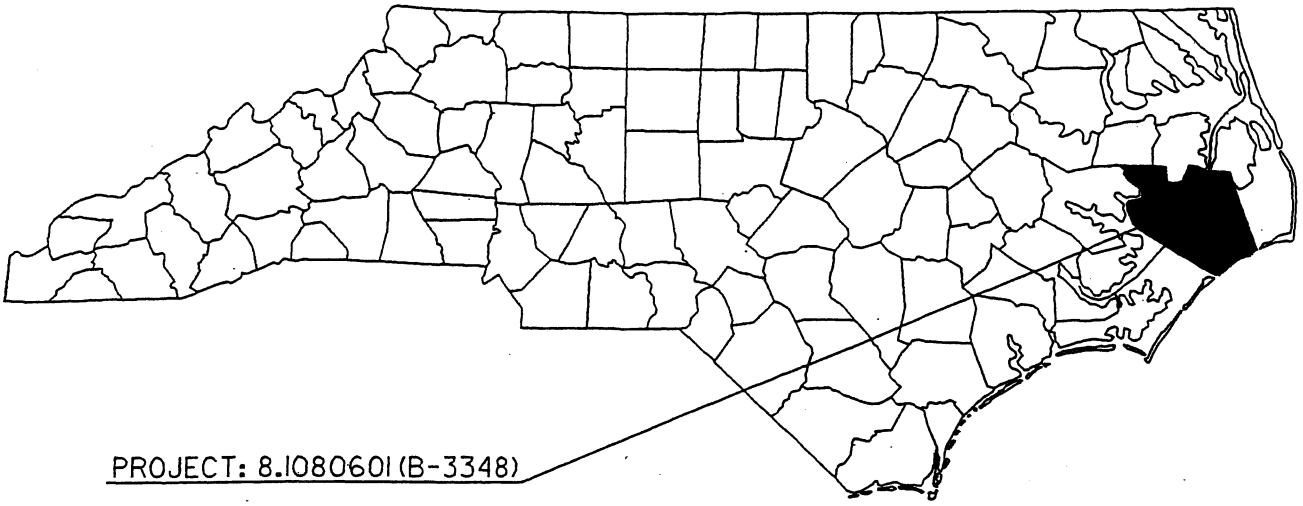
4. GENERAL

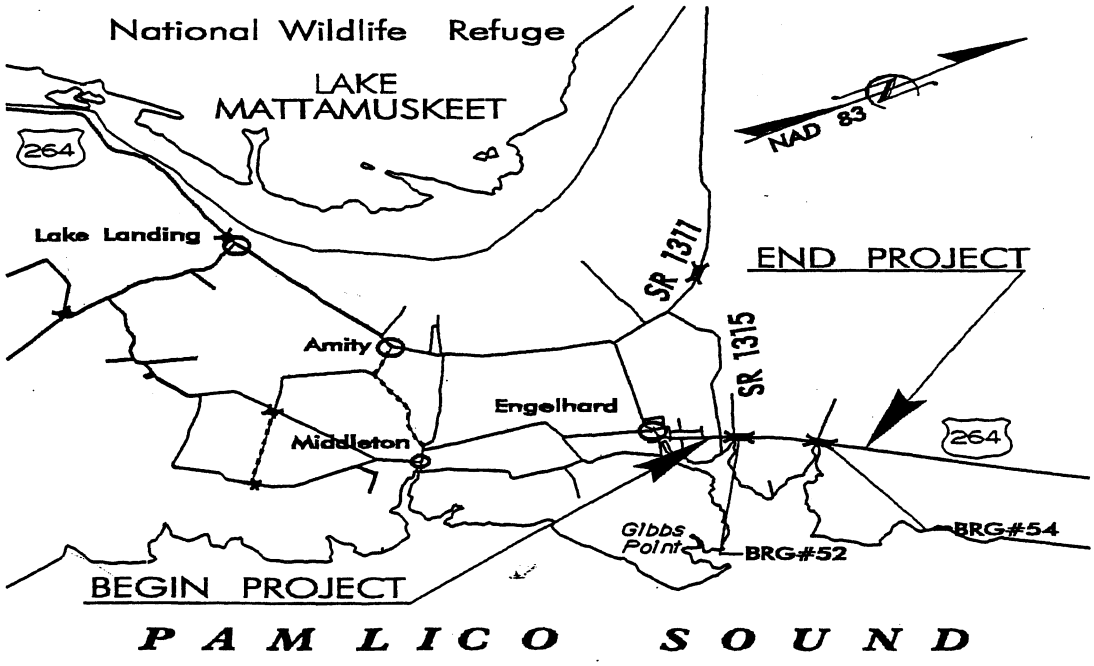
a. Will the proposed project involve any mitigation?
_x_ Yes ___ No
If yes, explain in detail
.26 acres of on-site wetland restoration.

b. Will the proposed project require the relocation of any existing utility lines? ___ Yes ___ No
If yes, explain in detail _____

c. Will the proposed project require the construction of any temporary detour structures?
___ Yes _x_ No
If yes, explain in detail _____

NORTH CAROLINA





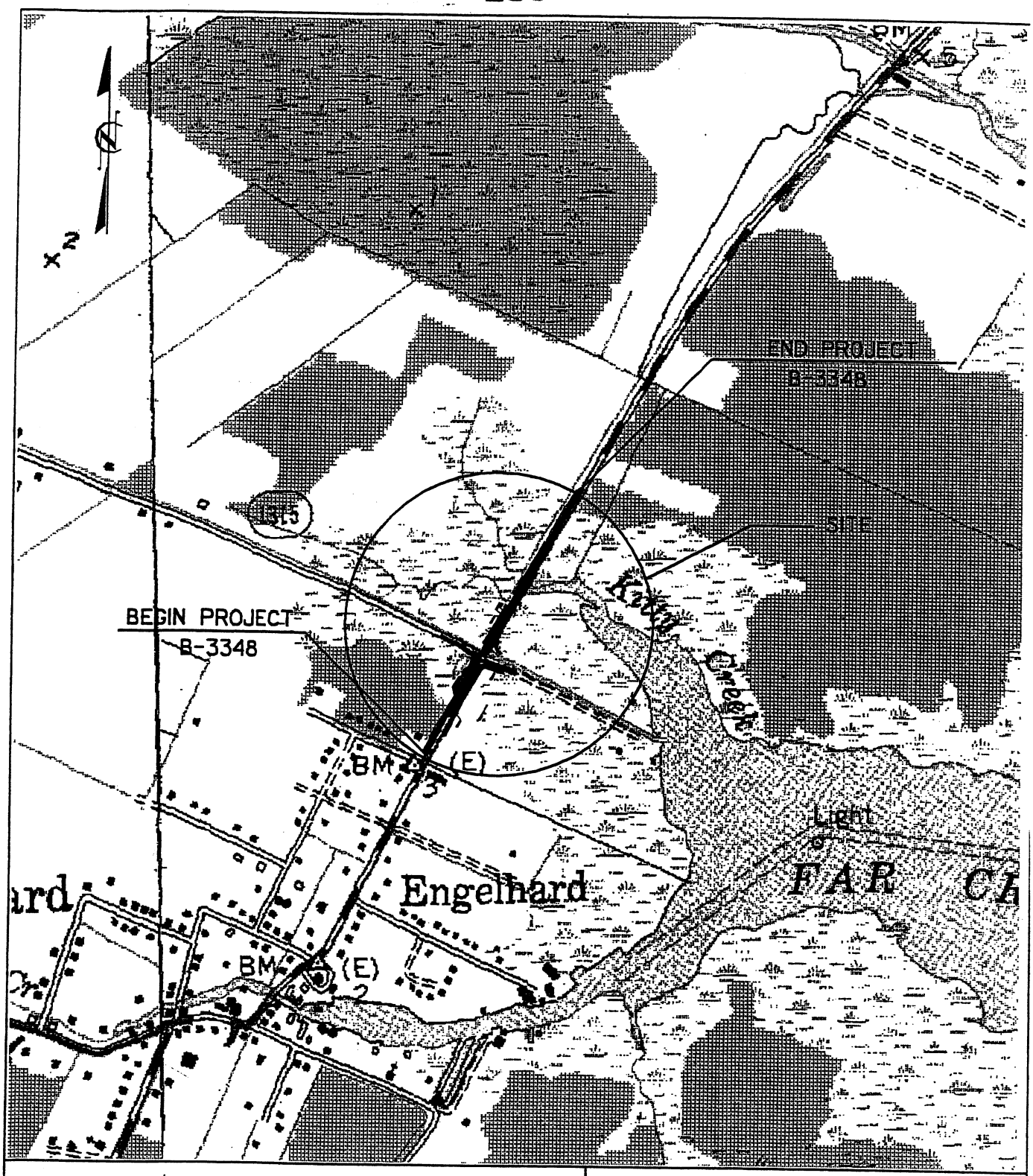
VICINITY MAPS

NCDOT

DIVISION OF HIGHWAYS-
HYDE COUNTY
PROJECT: 8.1080601 (B-3348)

REPLACE BRG#52, BRG#54 OVER WALLACE CANAL AND KITTY CREEK ON US 264

SHEET 1 OF 7 REV. 03/15/04



LOCATION MAP

NCDOT

DIVISION OF HIGHWAYS
HYDE COUNTY

PROJECT: 8.1080601 (B-3348)

REPLACE BRG#52, BRG#54 OVER
WALLACE CANAL AND KITTY CREEK
ON US 264

SHEET 2 OF 7 REV. 03/15/04

WETLAND LEGEND

WLB WETLAND BOUNDARY

WETLAND

F F DENOTES FILL IN WETLAND

S S DENOTES FILL IN SURFACE WATER

P P DENOTES FILL IN SURFACE WATER (POND)

T T DENOTES TEMPORARY FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

TS TS DENOTES TEMPORARY FILL IN SURFACE WATER

DENOTES MECHANIZED CLEARING

FLOW DIRECTION

TB TOP OF BANK

WE EDGE OF WATER

C PROP. LIMIT OF CUT

F PROP. LIMIT OF FILL

PROP. RIGHT OF WAY

NG NATURAL GROUND

PL PROPERTY LINE

TDE TEMP. DRAINAGE EASEMENT

PDE PERMANENT DRAINAGE EASEMENT

EAB EXIST. ENDANGERED ANIMAL BOUNDARY

EPB EXIST. ENDANGERED PLANT BOUNDARY

WATER SURFACE

LIVE STAKES

BOULDER

CORE FIBER ROLLS

PROPOSED BRIDGE

PROPOSED BOX CULVERT

PROPOSED PIPE CULVERT
12"-48" PIPES
54" PIPES & ABOVE

(DASHED LINES DENOTE EXISTNG STRUCTURES)

SINGLE TREE

WOODS LINE

DRAINAGE INLET

ROOTWAD

RIP RAP

5 ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE

PREFORMED SCOUR HOLE

LEVEL SPREADER (LS)

DITCH / GRASS SWALE

NCDOT

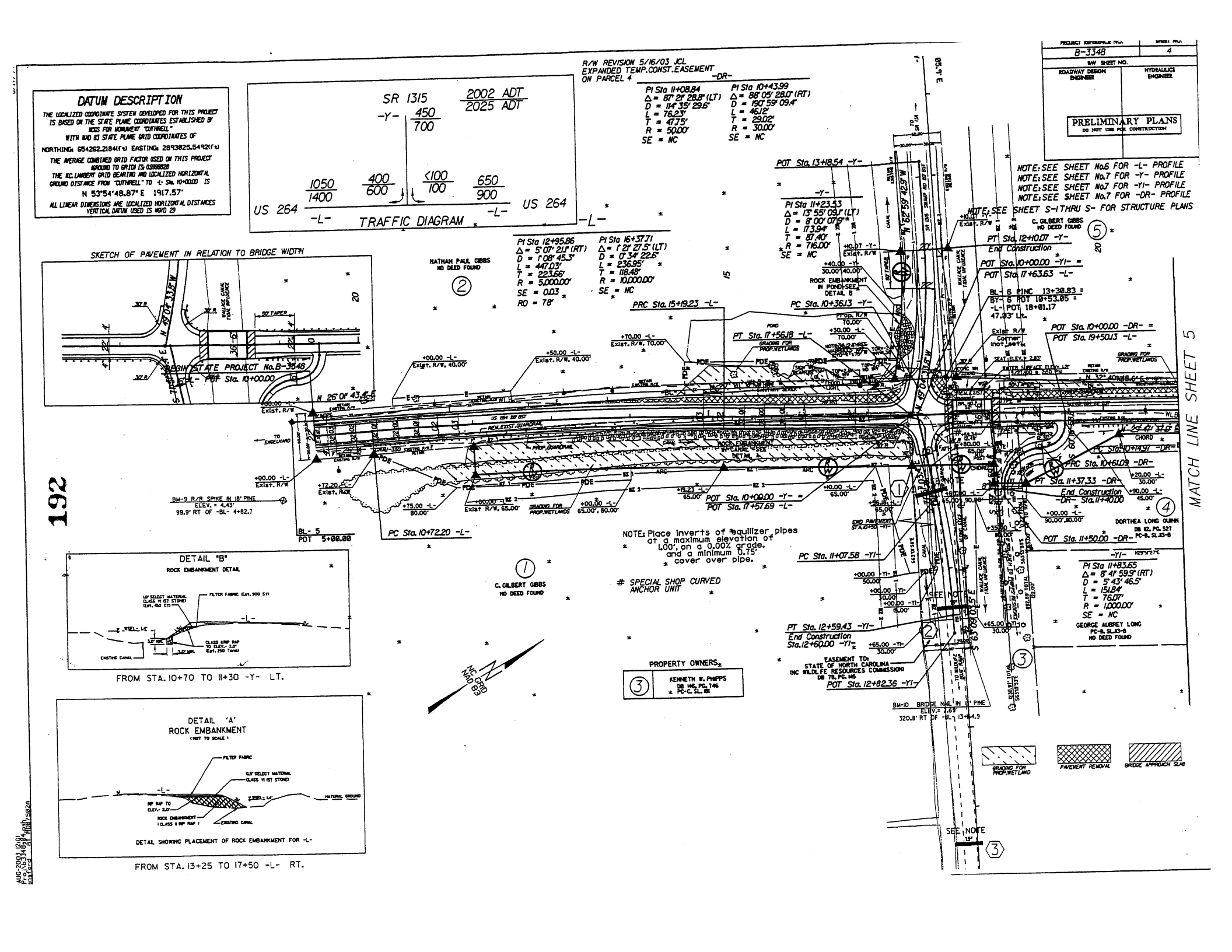
DIVISION OF HIGHWAYS

HYDE COUNTY

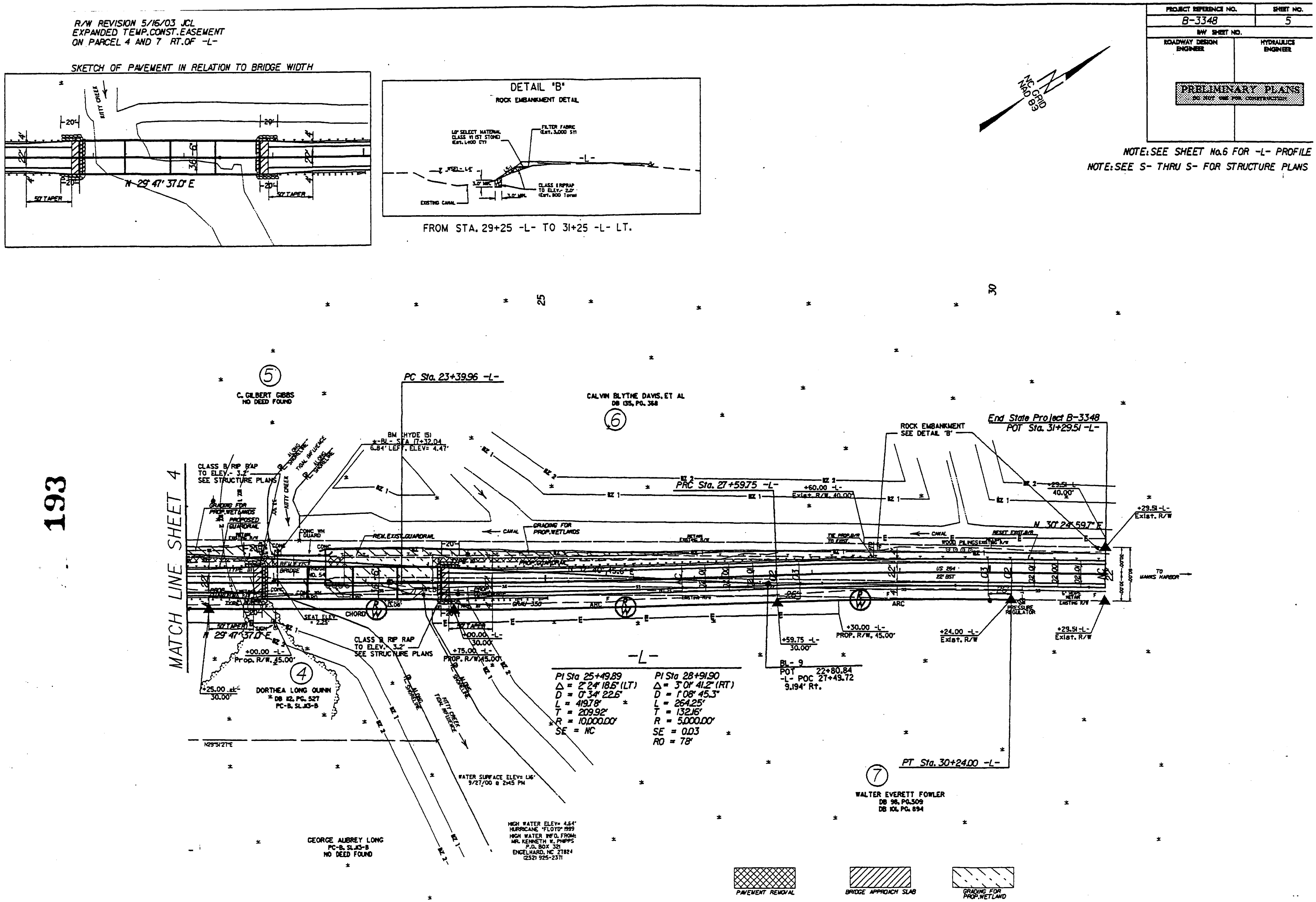
PROJECT: 8.1080601 (B-3348)

REPLACE BRG#52, BRG#54 OVER WALLACE CANAL AND KITTY CREEK ON US 264

SHEET 3 **OF** 7 **REV.** 03/15/04


DATUM DESCRIPTION
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NGS FOR MONUMENT "CUTHRELL"
WITH NAD 83 STATE PLANE GRID COORDINATES OF
NORTHING: 654262.2184(ft) EASTING: 2893825.5492(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998828
THE NC LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "CUTHRELL" TO -L- Sta. 10+00.00 IS
N 53°54'48.87" E 1917.57'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NGVD 29
SR 1315
2002 ADT
2025 ADT
-Y-
450
700
1050
1400
400
600
<100
100
650
900
US 264
-L-
TRAFFIC DIAGRAM
US 264
-L-
R/W REVISION 5/16/03 JCL
EXPANDED TEMP.CONST.EASEMENT
ON PARCEL 4
-DR-
PI Sta 11+08.84
Δ = 87° 21' 28.8" (LT)
D = 114° 35' 29.6"
L = 76.23'
T = 47.75'
R = 50.00'
SE = NC
PI Sta 10+43.99
Δ = 88° 05' 28.0" (RT)
D = 190° 59' 09.4"
L = 46.12'
T = 29.02'
R = 30.00'
SE = NC
PI Sta 12+95.86
Δ = 5° 07' 21" (RT)
D = 1° 08' 45.3"
L = 447.03'
T = 223.66'
R = 5,000.00'
SE = 0.03
RO = 78'
PI Sta 16+37.71
Δ = 1° 21' 27.5" (LT)
D = 0° 34' 22.6"
L = 236.95'
T = 118.48'
R = 10,000.00'
SE = NC
PI Sta 11+23.53
Δ = 13° 55' 09.1" (LT)
D = 8° 00' 07.9"
L = 173.94'
T = 87.40'
R = 716.00'
SE = NC
PI Sta 11+83.65
Δ = 8° 41' 59.9" (RT)
D = 5° 43' 46.5"
L = 151.84'
T = 76.07'
R = 1,000.00'
SE = NC
SKETCH OF PAVEMENT IN RELATION TO BRIDGE WIDTH
BEGIN STATE PROJECT No. B-3348
POT Sta. 10+00.00 -L-
NATHAN PAUL GIBBS
NO DEED FOUND
C. GILBERT GIBBS
NO DEED FOUND
GEORGE AUBREY LONG
PC-8, SL.83-B
NO DEED FOUND
DORTHEA LONG QUINN
DB 82, PG. 527
PC-8, SL.83-B
PROPERTY OWNERS
3 KENNETH W. PHIPPS
DB 445, PG. 746
PC-C, SL. 85
EASEMENT TO:
STATE OF NORTH CAROLINA
DNC WILDLIFE RESOURCES COMMISSION
DB 75, PG. 145
NOTE: SEE SHEET No.6 FOR -L- PROFILE
NOTE: SEE SHEET No.7 FOR -Y- PROFILE
NOTE: SEE SHEET No.7 FOR -Y1- PROFILE
NOTE: SEE SHEET No.7 FOR -DR- PROFILE
NOTE: SEE SHEET S-1 THRU S- FOR STRUCTURE PLANS
NOTE: Place inverts of equilizer pipes at a maximum elevation of 1.00', on a 0.00% grade, and a minimum 0.75' cover over pipe.
SPECIAL SHOP CURVED ANCHOR UNIT
DETAIL "B"
ROCK EMBANKMENT DETAIL
FROM STA. 10+70 TO 11+30 -Y- LT.
DETAIL 'A'
ROCK EMBANKMENT
(NOT TO SCALE)
DETAIL SHOWING PLACEMENT OF ROCK EMBANKMENT FOR -L-
FROM STA. 13+25 TO 17+50 -L- RT.
GRADING FOR PROP. WETLAND
PAVEMENT REMOVAL
BRIDGE APPROACH SLAB
MATCH LINE SHEET 5
192
PROJECT REFERENCE NO. B-3348
SHEET NO. 4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

193


8/17/99
R/W REVISION 5/16/03 JCL
EXPANDED TEMP.CONST.EASEMENT
ON PARCEL 4 AND 7 RT.OF -L-
SKETCH OF PAVEMENT IN RELATION TO BRIDGE WIDTH
KITTY CREEK
N 29° 47' 37.0" E
50' TAPER
DETAIL "B"
ROCK EMBANKMENT DETAIL
FILTER FABRIC
CLASS I RIPRAP TO ELEV.= 2.0'
EXISTING CANAL
FROM STA. 29+25 -L- TO 31+25 -L- LT.
PROJECT REFERENCE NO.
B-3348
SHEET NO.
5
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NC GRID NAD 83
NOTE: SEE SHEET No.6 FOR -L- PROFILE
NOTE: SEE S- THRU S- FOR STRUCTURE PLANS
MATCH LINE SHEET 4
C. GILBERT GIBBS
NO DEED FOUND
PC Sta. 23+39.96 -L-
CALVIN BLYTHE DAVIS, ET AL
DB 135, PG. 368
BM HYDE (5)
-BL- STA 17+32.04
6.84' LEFT, ELEV= 4.47'
CLASS B RIP RAP
TO ELEV.- 3.2'
SEE STRUCTURE PLANS
GRADING FOR PROP.WETLANDS
PROPOSED GUARDRAIL
REM. EXIST. GUARDRAIL
CONC WH GUARD
BRIDGE NO. 54
SEAT ELEV. = 2.25'
CHORD
ARC
CANAL
PRC Sta. 27+59.75 -L-
+60.00 -L-
Exist. R/W, 40.00'
ROCK EMBANKMENT
SEE DETAIL 'B'
End State Project B-3348
POT Sta. 31+29.51 -L-
+29.51 -L-
40.00'
N 30° 24' 59.7" E
+29.51 -L-
Exist. R/W
US 264
22' BST
TO MANNS HARBOR
N 29° 47' 37.0" E
+00.00 -L-
Prop. R/W, 45.00'
+25.00 -L-
30.00'
DORTHEA LONG QUINN
DB 112, PG. 527
PC-B, SL.113-B
+75.00 -L-
PROP. R/W, 45.00'
+00.00 -L-
30.00'
-L-
PI Sta 25+49.89
Δ = 2° 24' 18.6" (LT)
D = 0° 34' 22.6"
L = 419.78'
T = 209.92'
R = 10,000.00'
SE = NC
PI Sta 28+91.90
Δ = 3° 01' 41.2" (RT)
D = 1° 08' 45.3"
L = 264.25'
T = 132.16'
R = 5,000.00'
SE = 0.03
RO = 78'
+59.75 -L-
30.00'
BL- 9
POT 22+80.84
-L- POC 27+49.72
9.194' Rt.
+30.00 -L-
PROP. R/W, 45.00'
+24.00 -L-
Exist. R/W
PRESSURE REGULATOR
+29.51 -L-
Exist. R/W
PT Sta. 30+24.00 -L-
WALTER EVERETT FOWLER
DB 98, PG.509
DB 101, PG. 894
N29°51'27"E
WATER SURFACE ELEV= 1.16'
9/27/00 @ 2:45 PM
HIGH WATER ELEV= 4.64'
HURRICANE "FLOYD" 1999
HIGH WATER INFO. FROM:
MR. KENNETH W. PHIPPS
P.O. BOX 321
ENGELHARD, NC 27824
(252) 925-2371
GEORGE AUBREY LONG
PC-B, SL.113-B
NO DEED FOUND
PAVEMENT REMOVAL
BRIDGE APPROACH SLAB
GRADING FOR PROP.WETLAND

BUFFER IMPACTS SUMMARY

			IMPACT								BUFFER REPLACEMENT	
			TYPE		ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	PARALLEL IMPACT	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1	50' Bridge	21+50-24+20-L-	X		625.0	1000.0	1625.0			0.0		
		29+00-31+00-L-		X	1050.0		1050.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
							0.0			0.0		
TOTAL:					1675.0	1000.0	2675.0	0.0	0.0	0.0		

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

HYDE COUNTY
PROJECT: 8.1080601 (B-3348)

9/10/03
SHEET 6 OF 7

Site No.	Station (From/To) (-L-)	Structure Size / Type	Roadway Undercut (ac)	Berm Restoration (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Fill In SW (Total) (ac)	Fill In SW (Pond) (ac)	Fill In Wetland (ac)	Created Wetland (ac)	
1	11+50 - 31+00		0.06		0	0	0.46				
	11+80- 17+70			0.25							
	11+00 -Y- LT.							0.02			
	18+80- 21+85								0.2		
	11+50- 31+00									0.64	
TOTALS:			0.06	0.25	0	0	0.46	0.02	0.2	0.64	0

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

HYDE COUNTY

PROJECT: 8.1080601 (B-3348)

SHEET 7 OF 7 (02/09/04)

C200856 January 1, 2002

STANDARD SPECIAL PROVISION

AVAILABILITY OF FUNDS - TERMINATION OF CONTRACTS

In accordance with G.S. 143.18.1 (6), Subsection (5) of G.S. 143-28.1 is hereby incorporated verbatim in this contract. G.S. 143-28.1(5) is as follows:

"(5). Amounts Obligated - Payments subject to the Availability of Funds - Termination of Contracts. Highway maintenance and construction appropriations may be obligated in the amount of allotments made to the Department of Transportation by the Office of State Budget and Management for the estimated payments for maintenance and construction contract work to be performed in the appropriation fiscal year. The allotments shall be multi-year allotments and shall be based on estimated revenues and shall be subject to the maximum contract authority contained in subdivision (2) above. Payment for highway maintenance and construction work performed pursuant to contract in any fiscal year other than the current fiscal year will be subject to appropriations by the General Assembly. Highway maintenance and construction contracts shall contain a schedule of estimated completion progress and any acceleration of this progress shall be subject to the approval of the Department of Transportation provided funds are available. The State reserves the right to terminate or suspend any highway maintenance or construction contract and any highway maintenance or construction contract shall be so terminated or suspended if funds will not be available for payment of the work to be performed during that fiscal year pursuant to the contract. In the event of termination of any contract, the contractor shall be given a written notice of termination at least 60 days before completion of schedule work for which funds are available. In the event of termination, the contractor shall be paid for the work already performed in accordance with the contract specifications".

Payment will be made on any contract terminated pursuant to the special provision in accordance with Article 108-13, Item 5, of the North Carolina Department of Transportation Standard Specifications for Roads and Structures, dated January 1, 2002.

STANDARD SPECIAL PROVISIONS
(ENGLISH AND METRIC)
NCDOT GENERAL SEED SPECIFICATION FOR SEED QUALITY

Seed shall be sampled and tested by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory. When said samples are collected, the vendor shall supply an independent laboratory report for each lot to be tested. Results from seed so sampled shall be final. Seed not meeting the specifications shall be rejected by the Department of Transportation and shall not be delivered to North Carolina Department of Transportation warehouses. If seed has been delivered it shall be available for pickup and replacement at the supplier's expense.

Any relabeling required by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory, that would cause the label to reflect as otherwise specified herein shall be rejected by the North Carolina Department of Transportation.

Seed shall be free from seeds of the noxious weeds Johnsongrass, Balloonvine, Jimsonweed, Witchweed, Itchgrass, Serrated Tussock, Showy Crotalaria, Smooth Crotalaria, Sicklepod, Sandbur, Wild Onion, and Wild Garlic. Seed shall not be labeled with the above weed species on the seed analysis label. Tolerances as applied by the Association of Official Seed Analysts will NOT be allowed for the above noxious weeds except for Wild Onion and Wild Garlic.

Tolerances established by the Association of Official Seed Analysts will generally be recognized. However, for the purpose of figuring pure live seed, the found pure seed and found germination percentages as reported by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory will be used. Allowances, as established by the NCDOT, will be recognized for minimum pure live seed as listed on the following pages.

The specifications for restricted noxious weed seed refers to the number per pound as follows:

Restricted Noxious Weed	Limitations per Lb. Of Seed	Restricted Noxious Weed	Limitations per Lb. of Seed
Blessed Thistle	4 seeds	Bermudagrass	27 seeds
Cocklebur	4 seeds	Cornflower (Ragged Robin)	27 seeds
Spurred Anoda	4 seeds	Texas Panicum	27 seeds
Velvetleaf	4 seeds	Bracted Plantain	54 seeds
Morning-glory	8 seeds	Buckhorn Plantain	54 seeds
Corn Cockle	10 seeds	Broadleaf Dock	54 seeds
Wild Radish	12 seeds	Curly Dock	54 seeds
Purple Nutsedge	27 seeds	Dodder	54 seeds
Yellow Nutsedge	27 seeds	Giant Foxtail	54 seeds
Canada Thistle	27 seeds	Horsenettle	54 seeds
Field Bindweed	27 seeds	Quackgrass	54 seeds
Hedge Bindweed	27 seeds	Wild Mustard	54 seeds

Seed of Pensacola Bahiagrass shall not contain more than 7% inert matter, Kentucky Bluegrass and Fine or Hard Fescue shall not contain more than 5% inert matter whereas a maximum of 2% inert matter will be allowed on all other kinds of seed. In addition, all seed shall not contain more than 2% other crop seed nor more than 1% total weed seed. The germination rate as tested by the North Carolina Department of Agriculture shall not fall below 70%, which includes both dormant and hard seed. Seed shall be labeled with not more than 7%, 5% or 2% inert matter (according to above specifications), 2% other crop seed and 1% total weed seed.

Exceptions may be made for minimum pure live seed allowances when cases of seed variety shortages are verified. Pure live seed percentages will be applied in a verified shortage situation. Those purchase orders of deficient seed lots will be credited with the percentage that the seed is deficient.

Further specifications for each seed group are give below:

Minimum 85% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 83% pure live seed will not be approved.

Sericea Lespedeza
Oats (seeds)

Minimum 80% pure live seed; maximum 1% total weed seed; maximum 2% total other crop; maximum 144 restricted noxious weed seed per pound. Seed less than 78% pure live seed will not be approved.

Tall Fescue (all approved varieties)	Bermudagrass
Kobe Lespedeza	Browntop Millet
Korean Lespedeza	German Millet - Strain R
Weeping Lovegrass	Centipedegrass
Carpetgrass	Clover - Red/White/Crimson

Minimum 78% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 76% pure live seed will not be approved.

Common or Sweet Sundangrass

Minimum 76% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 74% pure live seed will not be approved.

Rye (grain; all varieties)
Kentucky Bluegrass (all approved varieties)
Hard Fescue (all approved varieties)
Shrub (bicolor) Lespedeza

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 70% pure live seed will not be approved.

Crownvetch
Pensacola Bahiagrass
Japanese Millet
Switchgrass
Reed Canary Grass

C200856 03-16-04

STANDARD SPECIAL PROVISIONS
ERRATA

Correct the *2002 Standard Specifications* as follows:

Page 1-61, Subarticle 108-10(A)

In the first sentence, change the Article reference from 101-24 to 101-**25**.

Page 2-21, Subarticle 235-4(B)

In the third sub-bullet under the eighth bullet in this subarticle, delete the word "subgrade" and insert the words "finished grade".

Page 3-4, Article 300-10

Change all references to 300-8 to 300-9.

Page 5-9, Subarticle 520-3(A)

Delete the words "at your option".

Page 5-10, Subarticle 520-6(A)

In the first sentence, add a period after "(B)" and delete the words "and (C)."

Delete the last sentence of the subarticle.

Page 8-47, Subarticle 862-6

Change the subarticle number from 862-6 to **862-7.**

Page 8-49, Subarticle 864-4

In the first paragraph, change the Article reference from 862-3 to **864-3.**

Page 8-55, Subarticle 866-5(G)

In the third pay item, insert the words "with Posts" after the word "Fence".

Page 10-1, Subarticle 1000-3(A)

In the second paragraph, change 550 psi to 600 psi (4.1 MPa).

Page 10-2, Subarticle 1000-3(A)

In the last sentence of the second paragraph on this page, change 550 psi to 600 psi (4.1 MPa).

Page 10-5, Table 1000-1

Under the column "Consistency Max. Slump" change the sub-heading 'Non-Vibrated' to 'Vibrated' and change the sub-heading 'Vibrated' to 'Non-Vibrated'. Under the column "Min. Cement Content" change the sub-heading 'Non-Vibrated' to 'Vibrated" and change the sub-heading 'Vibrated' to 'Non-Vibrated'.

Page 10-7, Table 1005-2

For Std. Size # 2S make the following changes:

- #50 (0.300) Sieve change the limits from 8 - 30 to **5 - 30.**
- #100 (0.150) Sieve change the limits from 0.5 - 10 to **0 - 10.**

For Std. Size # 2MS make the following changes:

- #50 (0.300) Sieve change the limits from 8 - 35 to **5 - 35.**
- #100 (0.150) Sieve change the limits from 0.5 - 20 to **0 - 20.**

Page 15-3, Article 1505-3

In the last paragraph of this article, change Article 300-6 to Article 300-7.

Page 15-10, Article 1510-5

In the fourth paragraph, insert a comma after the word "water".

Page 15-18, Article 1530-2

In the third paragraph on the page, change "Section 812" to "Section 340".

Page 16-15, Article 1635-3(A)

Substitute the second paragraph with the following:

Construct the rock pipe inlet sediment trap type-A with a minimum height of 18 inches (457.2 mm) and a minimum of 12 inches (304.8 mm) below the roadway shoulder or diversion point.

C200856 June 28, 1977

STANDARD SPECIAL PROVISION

AWARD OF CONTRACT

"The North Carolina Department of Transportation, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252) and the Regulations of the Department of Transportation (49 C.F.R., Part 21), issued pursuant to such act, hereby notifies all bidders that it will affirmatively insure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the ground of race, color, or national origin".

MINORITY AND FEMALE EMPLOYMENT REQUIREMENTS

NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE NUMBER 11246)

1. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, see as shown on the attached sheet entitled "Employment Goals for Minority and Female participation".

   These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

   The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its effort to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project or the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

2. As used in this Notice and in the contract resulting from this solicitation, the "covered area" is the county or counties shown on the cover sheet of the proposal form and contract.

EMPLOYMENT GOALS FOR MINORITY
AND FEMALE PARTICIPATION

Economic Areas

Area 023 29.7%

Bertie County
Camden County
Chowan County
Gates County
Hertford County
Pasquotank County
Perquimans County

Area 024 31.7%

Beaufort County
Carteret County
Craven County
Dare County
Edgecombe County
Green County
Halifax County
Hyde County
Jones County
Lenoir County
Martin County
Nash County
Northampton County
Pamlico County
Pitt County
Tyrrell County
Washington County
Wayne County
Wilson County

Area 025 23.5%

Columbus County
Duplin County
Onslow County
Pender County

Area 026 33.5%

Bladen County
Hoke County
Richmond County
Robeson County
Sampson County
Scotland County

Area 027 24.7%

Chatham County
Franklin County
Granville County
Harnett County
Johnston County
Lee County
Person County
Vance County
Warren County

Area 028 15.5%

Alleghany County
Ashe County
Caswell County
Davie County
Montgomery County
Moore County
Rockingham County
Surry County
Watauga County
Wilkes County

Area 029 15.7%

Alexander County
Anson County
Burke County
Cabarrus County
Caldwell County
Catawba County
Cleveland County
Iredell County
Lincoln County
Polk County
Rowan County
Rutherford County
Stanly County

Area 0480 8.5%

Buncombe County
Madison County

Area 030 6.3%

Avery County
Cherokee County
Clay County
Graham County
Haywood County
Henderson County
Jackson County
McDowell County
Macon County
Mitchell County
Swain County
Transylvania County
Yancey County

SMSA Areas

Area 5720 26.6%

Currituck County

Area 9200 20.7%

Brunswick County
New Hanover County

Area 2560 24.2%

Cumberland County

Area 6640 22.8%

Durham County
Orange County
Wake County

Area 1300 16.2%

Alamance County

Area 3120 16.4%

Davidson County
Forsyth County
Guiford County
Randolph County
Stokes County
Yadkin County

Area 1520 18.3%

Gaston County
Mecklenburg County
Union County

Goals For Female

Participation in Each Trade

(Statewide) 6.9%

FHWA-1273 Electronic version -- March 10, 1994

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Nonsegregated Facilities
IV. Payment of Predetermined Minimum Wage
V. Statements and Payrolls
VI. Record of Materials, Supplies, and Labor
VII. Subletting or Assigning the Contract
VIII. Safety: Accident Prevention
IX. False Statements Concerning Highway Projects
X. Implementation of Clean Air Act and Federal Water Pollution Control Act
XI. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion
XII. Certification Regarding Use of Contract Funds for Lobbying

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;
Section IV, paragraphs 1, 2, 3, 4, and 7;
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general dispute clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. **Selection of Labor:** During the performance of this contract, the contractor shall not:

a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's
EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementations of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

6. **Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. **Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the
job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or

disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of $10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. **General:**

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. **Classification:**

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. **Payment of Fringe Benefits:**

a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. **Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:**

a. Apprentices:

(1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Helpers:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. **Apprentices and Trainees (Programs of the U.S. DOT):**

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

6. **Withholding:**

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. **Overtime Requirements:**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. **Violation:**

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. **Withholding for Unpaid Wages and Liquidated Damages:**

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. **Compliance with Copeland Regulations (29 CFR 3):**

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. **Payrolls and Payroll Records:**

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

(2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;

(3) that each laborer or mechanic has been paid not less that the applicable wage rate and fringe benefits or cash equivalent for the classification of worked performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than $1,000,000 (23 CFR 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more that $10,000 or imprisoned not more than 5 years or both."

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. **Instructions for Certification - Primary Covered Transactions:**

(Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and

d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

2. **Instructions for Certification - Lower Tier Covered Transactions:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions of $25,000 or more - 49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

C200856 (B-3348)

Training Special Provisions

This project special provision will not be applicable to those Contractors who have elected to participate in the Department's *Alternative On-The-Job Training Program.* In the event the Contractor is participating in the Department's *Alternative On-The-Job Training Program*, the On-The-Job Training program of the Construction Unit, Contractual Services Section will certify that participation to the appropriate Highway Division and Resident Engineers.

This Training Special Provision supersedes subparagraph 7b of the Special Provision entitled "*Specific Equal Employment Opportunity Responsibilities,"* (Attachment 1), and is in implementation of 23 USC 140(a). As a part of the Contractor's equal opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journey workers in the type of trade or classification involved. Preference shall be given to providing training in the following skilled work classifications:

Equipment Operators	Office Engineers
Truck Drivers	Estimators
Carpenters	Iron / Reinforcing Steel Workers
Concrete Finishers	Mechanics
Pipe Layers	Welders

The number of trainees to be trained under this contract will be as specified in the project special provisions included else where in the proposal form.

In the event that a Contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided, however, the Contractor shall maintain the primary responsibility for meeting the training requirements imposed by this special provision and the subcontractor has an approved on-the-job training program. The Contractor shall also insure that this training special provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the skilled work classifications on the basis of the Contractor's needs and the availability of journey workers in the various classifications within a reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the Department for approval the number of trainees to be trained in each selected classification and the training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications on the form provided by the Department. That form shall be submitted by the Contractor to the Department on or before the date of the pre-construction conference. The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and who receives training for at least 50 percent of the specific program requirement.

Training and upgrading of minorities and women toward journey worker status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private resources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps he has taken in the pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journey worker status or in which he has been employed as a journey worker. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the finding in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the Department. The Department shall approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journey worker status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the US Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the US Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training, shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-Aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the Department prior to commencing work on the classification covered by the program. It is the intention of these provisions that training be provided in the construction crafts rather than clerk-typist or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is provided and approved by the Department and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

It is normally expected that a trainee will begin his training on the project as soon as feasible after the start of work utilizing the skill involved and remain on the project as long as training opportunities exist in the work classification or until he has completed his training program. It is not required that all trainees be on board for the entire length of the contract. A Contractor will have fulfilled his responsibilities under this

training special provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the Contractor for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journey worker's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will be following providing the training. The Contractor shall provide each trainee with a with a certificate showing the type and length of training satisfactorily completed.

The Contractor will provide for maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

GENERAL DECISION NC030010 06/13/03 NC10
General Decision Number NC030010

Superseded General Decision No. NC020010

State: North Carolina

Construction Type:
HIGHWAY

County(ies):

ALLEGHANY	GRANVILLE	PASQUOTANK
ANSON	GREENE	PENDER
ASHE	HALIFAX	PERQUIMANS
AVERY	HARNETT	PERSON
BEAUFORT	HAYWOOD	PITT
BERTIE	HENDERSON	POLK
BLADEN	HERTFORD	RICHMOND
BRUNSWICK	HOKE	ROBESON
CALDWELL	HYDE	ROCKINGHAM
CAMDEN	IREDELL	RUTHERFORD
CARTERET	JACKSON	SAMPSON
CASWELL	JOHNSTON	SCOTLAND
CHATHAM	JONES	STANLY
CHEROKEE	LEE	SURRY
CHOWAN	LENOIR	SWAIN
CLAY	MACON	TRANSYLVANIA
CLEVELAND	MADISON	TYRRELL
COLUMBUS	MARTIN	VANCE
CRAVEN	MCDOWELL	WARREN
CURRITUCK	MITCHELL	WASHINGTON
DARE	MONTGOMERY	WATAUGA
DUPLIN	MOORE	WAYNE
EDGECOMBE	NASH	WILKES
GATES	NORTHAMPTON	WILSON
GRAHAM	PAMLICO	YANCEY

HIGHWAY CONSTRUCTION PROJECTS (does not include Tunnels,Building Structures in rest area projects, Railroad Construction, and Bascule/Suspension/Spandrel Arch Bridges, Bridges designed for Commercial Navigation, and Bridges involving marine construction and other major bridges).

Modification Number	Publication Date
0	06/13/2003

COUNTY(ies):

ALLEGHANY	GRANVILLE	PASQUOTANK
ANSON	GREENE	PENDER
ASHE	HALIFAX	PERQUIMANS
AVERY	HARNETT	PERSON
BEAUFORT	HAYWOOD	PITT
BERTIE	HENDERSON	POLK
BLADEN	HERTFORD	RICHMOND
BRUNSWICK	HOKE	ROBESON
CALDWELL	HYDE	ROCKINGHAM
CAMDEN	IREDELL	RUTHERFORD
CARTERET	JACKSON	SAMPSON
CASWELL	JOHNSTON	SCOTLAND
CHATHAM	JONES	STANLY

CHEROKEE	LEE	SURRY
CHOWAN	LENOIR	SWAIN
CLAY	MACON	TRANSYLVANIA
CLEVELAND	MADISON	TYRRELL
COLUMBUS	MARTIN	VANCE
CRAVEN	MCDOWELL	WARREN
CURRITUCK	MITCHELL	WASHINGTON
DARE	MONTGOMERY	WATAUGA
DUPLIN	MOORE	WAYNE
EDGECOMBE	NASH	WILKES
GATES	NORTHAMPTON	WILSON
GRAHAM	PAMLICO	YANCEY

SUNC3001A 02/12/1990

	Rates	Fringes
CARPENTER	7.71	
CONCRETE FINISHER	7.64	
IRONWORKER (Reinforcing)	9.27	
LABORER		
Comman	5.42	
Asphalt Raker	6.32	
Form Setter (Road)	6.90	
Mason (Brick, Block, Stone)	7.76	
Pipe Layer	5.90	
Power Tool Operator	6.53	
POWER EQUIPMENT OPERATORS:		
Asphalt Distributor	6.57	
Asphalt Paver	7.00	
Bulldozer	7.21	
Bulldozer (utility)	6.00	
Concrete Finishing Machine	9.48	
Concrete Grinder	8.13	
Crane, Backhoe, Shovel, & Dragline (Over 1 yd.)	8.53	
Crane, Backhoe, Shovel, & Dragline (1 yd. & under)	6.91	
Drill Operator	7.65	
Grade Checker	5.15	
Greaseman	6.43	
Hydroseeder	7.00	
Loader	6.85	
Mechanic	8.27	
Milling Machine	8.00	
Motor Grader (Fine Grade)	8.01	
Motor Grader (Rough Grade)	7.42	
Oiler	5.80	
Piledriver	11.00	
Roller (Finish)	6.32	
Roller (Rough)	5.43	
Scraper	6.41	
Screed Asphalt	6.33	
Stone Spreader	5.88	
Stripping Machine Operator	6.00	
Subgrade Machine	9.00	
Sweeper	5.64	

Tractor (utility)	6.15
TRUCK DRIVERS:	
Single Rear Axle Trucks	5.15
Multi Rear Axle Trucks	5.48
Heavy Duty trucks	5.50
Welder	9.07

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

County : Hyde

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
			ROADWAY ITEMS			
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0029000000-N	SP	REINFORCED BRIDGE APPROACH FILL, STATION ********** (18+34.00)	Lump Sum	L.S.	
0003	0029000000-N	SP	REINFORCED BRIDGE APPROACH FILL, STATION ********** (22+85.00)	Lump Sum	L.S.	
0004	0043000000-N	226	GRADING	Lump Sum	L.S.	
0005	0050000000-E	226	SUPPLEMENTARY CLEARING & GRUBBING	1 ACR		
0006	0057000000-E	226	UNDERCUT EXCAVATION	8,500 CY		
0007	0195000000-E	265	SELECT GRANULAR MATERIAL	11,360 CY		
0008	0196000000-E	270	FABRIC FOR SOIL STABILIZATION	100 SY		
0009	0199000000-E	SP	TEMPORARY SHORING	11,500 SF		
0010	0314000000-E	SP	SELECT MATERIAL, CLASS ***** (VI)	70 TON		
0011	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRS	13 TON		
0012	0378000000-E	310	24" RC PIPE CULVERTS, CLASS III	116 LF		
0013	1121000000-E	520	AGGREGATE BASE COURSE	215 TON		
0014	1489000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0B	882 TON		
0015	1525000000-E	SP	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A	1,216 TON		
0016	1560000000-E	620	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22	117 TON		
0017	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	10 TON		
0018	2556000000-E	846	SHOULDER BERM GUTTER	130 LF		

County : Hyde

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0019	3030000000-E	862	STEEL BM GUARDRAIL	900 LF		
0020	3045000000-E	862	STEEL BM GUARDRAIL, SHOP CURVED	37.5 LF		
0021	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	5 EA		
0022	3180000000-N	862	GUARDRAIL ANCHOR UNITS, TYPE ********** (TYPE III, SHOP CURVED)	2 EA		
0023	3195000000-N	862	GUARDRAIL ANCHOR UNITS, TYPE AT-1	3 EA		
0024	3215000000-N	862	GUARDRAIL ANCHOR UNITS, TYPE III	6 EA		
0025	3270000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE 350	4 EA		
0026	3345000000-E	864	REMOVE & RESET EXISTING GUARD-RAIL	262.5 LF		
0027	3360000000-E	863	REMOVE EXISTING GUARDRAIL	1,300 LF		
0028	3577000000-N	SP	GENERIC FENCING ITEM RESET EXISTING METAL GATE & RESET TWO EXT METAL POLES	Lump Sum	L.S.	
0029	3635000000-E	876	PLAIN RIP RAP, CLASS II	1,100 TON		
0030	3656000000-E	876	FILTER FABRIC FOR DRAINAGE	750 SY		
0031	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	124 SF		
0032	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	160 SF		
0033	4425000000-N	1125	WARNING FLAG SETS	3 EA		
0034	4430000000-N	1130	DRUMS	41 EA		
0035	4435000000-N	1135	CONES	41 EA		
0036	4445000000-E	1145	BARRICADES (TYPE III)	24 LF		

County : Hyde

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0037	4455000000-N	1150	FLAGGER	10 MD		
0038	4490000000-E	1170	PORTABLE CONCRETE BARRIER (ANCHORED)	89 LF		
0039	4507000000-E	SP	WATER FILLED BARRIER	1,788 LF		
0040	4508000000-E	SP	RESET WATER FILLED BARRIER	877 LF		
0041	4595000000-E	SP	GENERIC TRAFFIC CONTROL ITEM WORK ZONE SIGNING FLUORESCENT ORANGE SHEETING (PORTABLE)	124 SF		
0042	4595000000-E	SP	GENERIC TRAFFIC CONTROL ITEM WORK ZONE SIGNING FLUORESCENT ORANGE SHEETING (STATIONARY)	160 SF		
0043	4615000000-E	1205	REMOVABLE TAPE PAVEMENT MARKING LINES (4")	500 LF		
0044	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	28,137 LF		
0045	4815000000-E	1205	PAINT PAVEMENT MARKING LINES (6")	782 LF		
0046	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	306 LF		
0047	4845000000-N	1205	PAINT PAVEMENT MARKING SYMBOL	18 EA		
0048	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	500 LF		
0049	4855000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (6")	100 LF		
0050	4875000000-N	1205	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	2 EA		
0051	4900000000-N	1252	PERMANENT RAISED PAVEMENT MARKERS	27 EA		
0052	5300000000-E	1505	FOUNDATION CONDITIONING MATERIAL, UTILITIES CLASS ******** (VI)	85 TON		

County : Hyde

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0053	5306000000-E	SP	BEDDING MATERIAL, UTILITIES CLASS ********** (IV)	85 TON		
0054	5771000000-E	1520	GENERIC UTILITY ITEM 10" HDPE FORCE MAIN SEWER PIPE SDR 9, 200# WP BY DIRECTIONAL BORE	1,615 LF		
0055	5882000000-N	SP	GENERIC UTILITY ITEM 10" x 6" TAPPING SLEEVE, VALVE & VALVE BOX, 200# WP	1 EA		
0056	5882000000-N	SP	GENERIC UTILITY ITEM 6" IN-LINE CHECK VALVE & VAULT	1 EA		
0057	5882000000-N	SP	GENERIC UTILITY ITEM 6" IN-LINE CLEAN-OUT & VAULT	1 EA		
0058	5882000000-N	SP	GENERIC UTILITY ITEM 8" GATE VALVE & VALVE BOX, 200# WP	2 EA		
0059	5882000000-N	SP	GENERIC UTILITY ITEM 8" IN-LINE CHECK VALVE & VAULT	1 EA		
0060	5882000000-N	SP	GENERIC UTILITY ITEM 8" IN-LINE CLEAN-OUT & VAULT	1 EA		
0061	5888000000-E	SP	GENERIC UTILITY ITEM 6" DI RESTRAINED JOINT FORCE MAIN SEWER PIPE, PC 350	40 LF		
0062	5888000000-E	SP	GENERIC UTILITY ITEM 8" DI RESTRAINED JOINT FORCE MAIN SEWER PIPE, PC 350	84.54 LF		
0063	5906000000-E	SP	GENERIC UTILITY ITEM DI RESTAINED JOINT FORCE MAIN SEWER PIPE FITTINGS, 250# WP	540 LB		
0064	6000000000-E	1605	TEMPORARY SILT FENCE	6,300 LF		
0065	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	100 TON		
0066	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	420 TON		
0067	6012000000-E	1610	SEDIMENT CONTROL STONE	280 TON		

County : Hyde

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0068	6015000000-E	1615	TEMPORARY MULCHING	4.5 ACR		
0069	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	150 LB		
0070	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	0.75 TON		
0071	6030000000-E	1630	SILT EXCAVATION	400 CY		
0072	6036000000-E	1631	MATTING FOR EROSION CONTROL	2,300 SY		
0073	6042000000-E	1632	1/4" HARDWARE CLOTH	840 LF		
0074	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	350 SY		
0075	6084000000-E	1660	SEEDING & MULCHING	5 ACR		
0076	6087000000-E	1660	MOWING	2.5 ACR		
0077	6090000000-E	1661	SEED FOR REPAIR SEEDING	50 LB		
0078	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	0.25 TON		
0079	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	100 LB		
0080	6102000000-E	1664	SODDING	2,900 SY		
0081	6105000000-E	1664	WATER	49 M/G		
0082	6108000000-E	1665	FERTILIZER TOPDRESSING	3.75 TON		
0083	6114000000-N	SP	SPECIALIZED HAND MOWING	3 HR		
0084	6117000000-N	1675	RESPONSE FOR EROSION CONTROL	8 EA		
0085	6135000000-E	SP	GENERIC EROSION CONTROL ITEM WETLAND GRASS PLANTING	0.9 ACR		
0086	6147000000-E	SP	GENERIC EROSION CONTROL ITEM SAFETY FENCE	5,000 LF		
0087	7060000000-E	1705	SIGNAL CABLE	1,950 LF		

County : Hyde

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0088	7120000000-E	1705	VEHICLE SIGNAL HEAD (12", 3 SECTION)	12 EA		
0089	7264000000-E	1710	MESSENGER CABLE (3/8")	1,540 LF		
0090	7300000000-E	1715	TRENCHING (UNPAVED)	358 LF		
0091	7360000000-N	1720	WOOD POLE	11 EA		
0092	7372000000-N	1721	GUY ASSEMBLY	8 EA		
0093	7408000000-E	1722	1" RISER WITH WEATHERHEAD	1 EA		
0094	7420000000-E	1722	2" RISER WITH WEATHERHEAD	7 EA		
0095	7444000000-E	1725	INDUCTIVE LOOP SAWCUT	1,322 LF		
0096	7456000000-E	1726	LEAD-IN CABLE	3,120 LF		
0097	7636000000-N	1745	SIGN FOR SIGNALS	3 EA		
0098	7768000000-N	1751	CONTROLLER WITH CABINET (TYPE 2070L, POLE MOUNTED)	1 EA		
0099	7780000000-N	SP	DETECTOR CARD (TYPE 2070L)	3 EA		
			STRUCTURE ITEMS			
0100	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (18+34.00-L-)	Lump Sum	L.S.	
0101	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (22+85.00-L-)	Lump Sum	L.S.	
0102	8112700000-N	SP	DYNAMIC LOAD TEST	1 EA		
0103	8121000000-N	SP	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (18+34.00-L-)	Lump Sum	L.S.	

County : Hyde

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0104	8121000000-N	SP	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (22+85.00 -L-)	Lump Sum	L.S.	
0105	8175000000-E	420	CLASS AA CONCRETE (BRIDGE)	124.5 CY		
0106	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (18+34.00-L-)	Lump Sum	L.S.	
0107	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (22+85.00-L-)	Lump Sum	L.S.	
0108	8224000000-E	425	EPOXY COATED REINFORCING STEEL (BRIDGE)	20,729 LB		
0109	8333000000-E	450	16" PRESTRESSED CONC PILES	2,900 LF		
0110	8433000000-E	452	**" STEEL SHEET PILES (18")	4,751.2 SF		
0111	8475000000-E	460	TWO BAR METAL RAIL	465.25 LF		
0112	8517000000-E	460	1'-**"X *****" CONCRETE PARAPET (1'-2" x 2'-9")	495.75 LF		
0113	8594000000-E	876	PLAIN RIP RAP CLASS B	163 TON		
0114	8622000000-E	876	FILTER FABRIC FOR DRAINAGE	182 SY		
0115	8657000000-N	430	ELASTOMERIC BEARINGS	Lump Sum	L.S.	
0116	8762000000-E	430	3'-0" X 1'-9" PRESTRESSED CONC CORED SLABS	3,214.25 LF		

Contract No: C200856

County: Hyde

ACCEPTED BY THE
DEPARTMENT OF TRANSPORTATION

_____
Contract Officer

_____
Date

Execution of Contract and Bonds
Approved as to Form:

_____
Attorney General