



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

December 13, 2006

Addendum No. 1

RE: Contract ID: C201304
TIP Number: R-2616
Federal Aid No.: STP-601(19)
Union County
Project Description: US 601 from north of the South Carolina State Line to north of Marion Lee Road (SR 2105)

January 25, 2007 Letting

To Whom It May Concern:

Reference is made to the Request for Proposal recently furnished to you on the above project. The following revisions have been made to the Request for Proposal:

The COVER SHEET has been revised.

The TABLE OF CONTENTS has been revised.

Pages 2, 5, 6, 26, 29 and 31 - 35 of the PROJECT SPECIAL PROVISIONS have been revised.

Page 44 of the GENERAL SECTION has been revised.

Pages 53, 54 and 56 of the ROADWAY SCOPE OF WORK have been revised.

Page 63 of the PAVEMENT MANAGEMENT SCOPE OF WORK has been revised

Pages 65 and 66 of the HYDRAULICS SCOPE OF WORK have been revised.

Pages 75 - 78 of the CEMENT and LIME STABILIZATION of SUBGRADE SOILS SCOPE OF WORK have been revised.

Pages 80 - 83 of the ENVIRONMENTAL PERMITS SCOPE OF WORK have been revised.

Pages 84 - 87 of the GEOENVIRONMENTAL SCOPE OF WORK have been revised.

Pages 90 and 91 of the EROSION and SEDIMENTATION CONTROL SCOPE OF WORK have been revised.

Pages 98, 101 and 102 of the TRAFFIC CONTROL SCOPE OF WORK have been revised.

Page 108 of the UTILITIES COORDINATION SCOPE OF WORK has been revised.

Pages 112 and 113 of the RIGHT OF WAY SCOPE OF WORK have been revised.

Pages 207, 232 and 234 of the STANDARD SPECIAL PROVISIONS have been revised.

Page 260A has been added to the STANDARD SPECIAL PROVISIONS.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
ALTERNATIVE DELIVERY UNIT
1591 MAIL SERVICE CENTER
RALEIGH NC 27699-1591

TELEPHONE: 919-250-4128
FAX: 919-250-4119

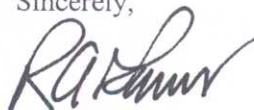
WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC

The attached original (labeled) Final RFP (December 13, 2006) that contains Addendum No. 1 is being supplied to you. This original labeled RFP must be used to submit the Price Proposal.

One bound copy and one unbound copy of the Final RFP (December 13, 2006) that contains Addendum No. 1 are available for you on the Design-Build pick-up table located in Century Center Building "B". It is the Design-Build Team's responsibility to insure that the unbound copy is complete and includes all the information contained in the bound RFP. The Department assumes no responsibility and makes no claims for its use. Additional bound copies may be obtained, at a cost of \$25.00 per copy, by contacting Ms. Betty Rawls at 919-250-4128.

Sincerely,



R.A. Garris, P.E.
Contract Officer

RAG/adg

c: Mr. Steve Varnedoe, PE
Mr. Ellis Powell, PE
Ms. Deborah Barbour, PE (w/)
Mr. Victor Barbour, PE (w/)
Mr. Art McMillan, PE
Mr. Rodger Rochelle, PE (w/)
Mr. Clarence Coleman, PE - FHWA (w/3)
Mr. Barry Moose, PE (w/)
Mr. Jay Bennett, PE
Ms. Judith Corley-Lay, PhD, PE
Mr. John Williamson
Mr. Calvin Leggett, PE
Mr. Njoroge Wainaina, PE
Mr. Dave Henderson, PE
Mr. Ron King, PE
Mr. Greg Perfetti, PE
Mr. Don Lee
Mr. Richard Mullinax, PE
Mr. Greg Thorpe, PhD
Mr. Stuart Bourne, PE
Mr. Robert Memory, (w/)
Mr. Philip Harris, PE (w/)
Mr. Carl Goode
Mr. Ron Hancock, PE (w/)
Mr. David Harris, PE
Mr. Ray McIntyre, PE
Mr. Brian Yamamoto, PE (w/)
Mr. Ron Davenport, PE (w/)
Mr. Van Argabright, PE
Ms. Betty Rawls
Mr. Meredith McDiarmid, PE (w/)
Mr. Jim Dunlop, PE (w/)
Mr. Ayman Alqudwah, PE (w/)
Ms. Jennifer Brandenburg, PE (w/)
Mr. Tony Wyatt, PE (w/)
Mr. John Emerson, PE (w/)
Mr. Roger Worthington, PE (w/)
Mr. Brian Mayhew, PE (w/)
Mr. Scott Blevins, PE (w/)
Ms. Marsha Sample (w/)
Mr. Elizabeth Lusk - Environmental Permits (w/)
Mr. John Pilipchuk, PE - Geotechnical (w/)
Mr. Neal Strickland - Right-of-Way (w/)
Mr. Barney Blackburn, PE - Erosion & Sed. Cont. (w/3)
Mr. Lonnie Brooks, PE - Structures (w/)
Mr. Cyrus Parker, LG - Geo-Environmental (w/)
Ms. Teresa Bruton, PE (w/6)
Mr. Stephen Worthy - Utility Coordination (w/)
Mr. Clark Morrison, PhD, PE - Pavement Design (w/)
Ms. Virginia Mabry (w/)
Ms. Michelle Long, PE - Public Information (w/)
Mr. Wayne Johnson, PE (w/)
Ms. Alena Cook, PE (w/)
Mr. Rob Hanson, PE
Ms. Tawana Brooks, PE (w/5)
Mr. Rick Mason, PE (w/)
Mr. David Naylor, PE (w/)
Technical Review Committee Members (w/)
File (w/)

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



FINAL RFP

Includes

Addendum No. 1 December 13, 2006

DESIGN-BUILD PROJECT

TIP R-2616

December 13, 2006



VOID FOR BIDDING

DATE AND TIME OF TECHNICAL AND PRICE PROPOSAL SUBMISSION: **January 5, 2007 AT 4:00 PM**

DATE AND TIME OF PRICE PROPOSAL OPENING: **January 25, 2007 AT 10:00 AM**

CONTRACT ID: C 201304

WBS ELEMENT NO. 34485.3.7

F.A. Project. No. STP-601(19)

COUNTY: UNION

ROUTE NO. US 601

MILES: 10.9

LOCATION: US 601 FROM NORTH OF THE SOUTH CAROLINA STATE LINE
TO NORTH OF MARION LEE ROAD (SR 2105)

TYPE OF WORK: DESIGN-BUILD AS SPECIFIED IN THE SCOPE OF WORK
CONTAINED IN THE RFP

NOTICE:

ALL PROPOSERS 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 PROPOSER 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 SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. PROPOSERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOT WITHSTANDING THESE LIMITATIONS ON BIDDING, THE PROPOSER WHO IS AWARDED ANY PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING, REGARDLESS OF FUNDING SOURCES.

5% BID BOND OR BID DEPOSIT REQUIRED

TABLE OF CONTENTS

COVER SHEET

PROPOSAL SHEETS

PROJECT SPECIAL PROVISIONS (GREEN SHEETS) PAGE NO.

Contract Time and Liquidated Damages..... 1

Other Liquidated Damages and Incentives..... 1-2

Project Schedule..... 3-4

Payout Schedule..... 4-5

Mobilization..... 5

Fuel Price Adjustment..... 5-6

Partnering..... 6

Execution of Signature Sheets and Debarment Certification..... 7

Submission of Design-Build Proposals..... 7-8

Confidential Questions..... 8

Value Analysis..... 9

Schedule of Estimated Completion Progress..... 9

Disadvantaged Business Enterprise..... 9-17

Certification for Federal-Aid Projects..... 18

Contractor’s License Requirements..... 18

Domestic Steel and Iron Products..... 18-19

U. S. Department of Transportation Hotline..... 19

Submission of Records – Federal-Aid Projects..... 19

Design-Build Team Borrow Source..... 20

Subsurface Information..... 20

Training Requirements..... 20

Safety Vests..... 21

Bid Documentation..... 21-23

Twelve Month Guarantee..... 23-24

Outsourcing Outside U.S.A..... 24

Disqualification of Bidders..... 24-25

Rejection of Bids..... 25

Erosion and Sedimentation Control / Stormwater Certification..... 25-31

Clearing and Grubbing..... 31

Building and Appurtenance Removal / Demolition..... 31-32

Embankment Monitoring..... 32

Price Adjustments for Asphalt Binder..... 32-33

Price Adjustments Asphalt Concrete Plant Mix..... 33

Crane Safety..... 33-34

Precast Reinforced Concrete Three-Sided Culvert..... 35-39

GENERAL (GREEN SHEETS) 40-52

SCOPES OF WORK (GREEN SHEETS)

Roadway..... 53-57

Structure..... 58-59

Pavement Management..... 60-64

Hydraulics..... 65-66

Geotechnical Engineering..... 67-74

Addendum No. 1 December 13, 2006

C 201304 (R-2616)

Union County

Cement and Lime Stabilization of Subgrade Soils	75-78
Environmental Permits.....	79-83
GeoEnvironmental.....	84-89
Erosion and Sedimentation Control.....	90-94
Traffic Control.....	95-104
Signing	105-106
Utilities Coordination.....	107-111
Right of Way.....	112-114
Public Information.....	115-116
PERMITS (WHITE SHEETS)	117-206

STANDARD SPECIAL PROVISIONS (YELLOW SHEETS)

Prompt Payment of Monies Due Subcontractors.....	207
Borrow and Waste Site Reclamation Procedures.....	207
Plant and Pest Control Quarantines.....	207-208
Roadway Excavation.....	208-209
Borrow Excavation (Evaluation of Wetlands).....	209
Preparation of Subgrade and Base.....	209
Asphalt Pavements- Superpave.....	209-222
Asphalt Binder Content of Asphalt Plant Mixes.....	222
Final Surface Testing - Asphalt Pavements.....	222-226
Disposal of Waste and Debris.....	226
Guardrail Posts and Offset Blocks.....	226-228
Street Signs and Markers and Route Markers.....	228
Aggregate Production.....	228
Concrete Brick and Block Production.....	228
Fine Aggregate.....	229
Borrow Material.....	229
Retroreflective Sheeting.....	229-232
Drums	232
Portable Concrete Barrier.....	232
Work Zone Signs.....	233-234
Barricades.....	234
Pavement Marking General Requirements.....	234
Availability of Funds – Termination of Contracts.....	235
NC DOT General Seed Specification for Seed Quality	236-238
Errata.....	239-240
Award of Contract.....	241
Minority and Female Employment Requirements.....	242-244
Required Contract Provisions Federal-Aid Construction Contracts.....	245-253
Training Special Provisions.....	254-256
Wage Rates.....	257-260
Minimum Wages.....	260A
Division One	261-342

PROPOSAL FORMS - ITEMIZED SHEET, ETC.

Itemized Proposal Sheet (WHITE SHEET)	
Fuel Usage Factor Chart and Estimate of Quantities (WHITE SHEET)	
Award Limits on Multiple Projects (YELLOW SHEET)	
Listing of DBE Subcontractors (YELLOW SHEETS)	
Execution of Bid, Noncollusion Affidavit & Debarment Certification Signature Sheet (YELLOW SHEETS)	

Intermediate Contract Time #2 for Road Closure Restrictions for Construction Operations:

Liquidated Damages for Intermediate Contract Time # 2, for road closure time restrictions on US 601, are \$500.00 per 15 minute period or any portion thereof.

Reference the Traffic Control Scope of Work for additional information on the above time restrictions and liquidated damages.

Erosion and Sedimentation Control Incentives:

The Design-Build Team will be eligible for an incentive in the amount of \$100,000 if construction operations have been performed in accordance with all environmental regulations and the Specifications, and the Design-Build Team does not receive any violations (ICA, CICA, NOV and / or C&D) at any time during project construction.

Reference Erosion and Sedimentation Control Scope of Work for additional information.

Liquidated Damages for Erosion Control efforts apply to this project:

The Design-Build Team's first four violations shall result in a reduction of \$25,000 from the \$100,000 incentive noted above for each ICA, CICA, NOV, and / or C&D violation. Beginning with the fifth violation, Liquidated Damages in the amount of \$25,000 per violation shall be deducted from the lump sum bid amount due the Design-Build Team.

Reference the Erosion and Sedimentation Control Scope of Work for additional information and additional Liquidated Damages.

DB1 G11

MEDIAN BARRIER ALTERNATE BID

**** NOTE ** Deleted Median Barrier Alternate Bid Project Special Provision**

the Department, to establish the monthly funding levels for this project. The Anticipated Monthly Payout Schedule shall parallel, and agree with, the project schedule the Design-Build Team submits as a part of their Technical Proposal. The schedule shall include a monthly cost percentage breakdown (in terms of the total contract amount percentages) of the work anticipated to be completed. The schedule shall begin with the Date of Availability and end with the Actual Completion Date proposed by the Design-Build Team. **If the Payout Schedule is not submitted as outlined above, the Technical and Price Proposals shall be considered irregular by the Department and the bid may be rejected.**

DB1 G13

MOBILIZATION (10-31-05)

Revise the 2002 *Standard Specifications* as follows:

Page 8-1, Subarticle 800-2, COMPENSATION

Delete this subarticle in its entirety and replace with the following:

800-2 COMPENSATION

5 percent of the "Total Amount Bid for Entire Project" shall be considered the lump sum amount for Mobilization. Partial payments for Mobilization will be made beginning with the first partial pay estimate paid on the contract. Payment will be made at the rate of 50 percent of the lump sum amount calculated for Mobilization. The remaining 50 percent will be paid with the second partial pay estimate.

DB1 G15

FUEL PRICE ADJUSTMENT (10-4-05)

Fuel price adjustments will be made to the payments due the Design-Build Team for specific items of work shown in the Fuel Usage Factor Chart, when the average terminal price has fluctuated from the Base Index Price contained in the contract. The Fuel Usage Factor Chart is located in the back of this RFP, following the Itemized Proposal Sheet. The average terminal price is the average of the F.O.B. price for diesel fuel at the terminals in Charlotte, Wilmington and Selma, North Carolina. When the average terminal price fluctuates upward or downward from the Base Index Price, an amount will be added to or deducted from the monies due the Design-Build Team as follows.

The quantity for the specified items for which payment is being requested will be multiplied by the respective Diesel Fuel Usage Factor contained in the contract to determine the theoretical diesel fuel usage for each specified item. The sum of the theoretical diesel fuel usage for all specified items will be multiplied by the algebraic difference between the average F.O.B. price for diesel fuel at the above specified terminals and the Base Index Price contained in the contract to determine the fuel price adjustment to be made on the partial payment estimate. Fuel Price Adjustments will apply only to Diesel #2 Fuel.

The following formula will be used to calculate the appropriate payment or credit on the estimate.

$$S = (A - B)(\Sigma QF)$$

- Where:
- S = Fuel Price Adjustment for partial payment
 - B = Base Index Price
 - A = Average terminal price
 - Q = Partial payment quantity for contract item
 - F = Fuel factor for contract item

The average terminal price in effect on the first day of the month in which the partial payment period ends will be used to make payment adjustments for fuel whether or not more than one price fluctuation has occurred within a single partial payment period.

The fuel price adjustment for the specified item will be determined by multiplying the cumulative fuel price adjustment made for that specified item for the previous estimate period(s) by the adjusted quantity for that specified item and divided by the total quantity of work paid for the previous estimates for the specified item

The Design-Build Team shall prepare, and present with their Price Proposal, an Estimate of Quantities of which they anticipate incorporating into the completed project and upon which the Price Proposal was based. The quantity breakdown shall include all items of work, which appear in the Fuel Usage Factor Chart. The quantity estimate submitted in the Price Proposal is the final total quantity for which fuel price adjustments will be made for each item, regardless of supplemental agreements. The Department shall review the Estimate of Quantities to insure its reasonableness to the proposed design. Agreement of quantities is a prerequisite prior to execution of the contract.

The Design-Build Team's Estimate of Quantities shall be utilized on the various partial payment estimates to determine fuel price adjustments. The Design-Build Team shall submit a payment request for quantities of work completed based on the work completed for that estimate period. The quantities requested for partial payment shall be reflective of the work actually accomplished for the specified period. A licensed Professional Engineer shall sign and seal that the quantities are reasonable for the specified period. Only those items of work which are specifically noted in the Fuel Usage Factor Chart will be subject to fuel price adjustments.

If the Design-Build Team elects **not** to pursue reimbursement for Fuel Price Adjustments, a quantity of zero shall be entered for all quantities in the Fuel Usage Factor Chart (found immediately after the Itemized Proposal Sheet) and the declination box checked. Failure to complete this form will be taken as declining Fuel Price Adjustments for this project.

The base index price for DIESEL #2 FUEL is \$ **1.8875** per gallon.

DB1 G43

PARTNERING

As a part of its quality management program, the North Carolina Department of Transportation intends to encourage the formation of a cohesive relationship with the Design-Build Team and its principal subcontractors and suppliers. This relationship will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are safe, effective, and efficient contract performance; and completion within budget, on schedule, and in accordance with the plans and specifications.

This relationship will be bilateral in makeup and participation will be totally voluntary. The cost associated with effectuating this relationship will be agreed to by both parties and shall be shared equally. Compensation for the Department's share of the partnering costs will be by Supplemental Agreement.

To implement this initiative prior to starting work in accordance with the requirements of Section 108 of the Standard Special Provisions, Division 1 (found elsewhere in this RFP), and prior to the preconstruction conference, the Design-Build Team's management personnel and Division Construction Engineer will initiate a partnering development seminar / team building workshop.

- (B) *Certified Foreman* – Provide a certified, trained foreman for each construction operation that increases the potential for soil erosion or the possible sedimentation and turbidity of surface waters.
- (C) *Certified Installer* – Provide a certified installer to install or direct the installation for erosion or sediment / stormwater control practices.

In the case of difference of opinion or interpretation of plan or contract requirements between the Contractor and the Engineer, the Engineer's determination and decision will be final.

II. Roles and Responsibilities

- (A) *Certified Erosion & Sediment Control Stormwater Supervisor* - The Certified Supervisor shall be responsible for ensuring erosion and sediment / stormwater control is adequately implemented and maintained on the project and conducting the quality control program. The Certified Supervisor shall be on the project within 24 hours from initial exposure of an erodible surface to the project's final acceptance when questions or concerns arise with Erosion and Sedimentation Control / Stormwater issues. Perform the following duties:

- (1) *Manage Operations* - Coordinate and schedule the work of subcontractors so erosion and sediment / stormwater control measures are fully executed for each operation and in a timely manner over the duration of the contract.

Oversee the work of subcontractors so that appropriate erosion and sediment / stormwater control preventive measures are conformed to at each stage of the work.

Prepare the required weekly erosion control punchlist and present it to the Engineer.

Attend all weekly or monthly construction meetings to discuss the findings of the NPDES inspection log and other related issues.

Implement the erosion and sediment / stormwater control site plans requested.

Provide for erosion and sediment / stormwater control methods for Contractor's temporary work not shown on the plans, such as, but not limited to work platforms, temporary construction, pumping operations, plant and storage yards, and cofferdams.

- (B) *Certified Foreman* - At least one Certified Foreman shall be onsite for each type of work listed herein during the respective construction activities to control erosion, prevent sedimentation and follow permit provisions:

Foreman in charge of grading activities

Foreman in charge of bridge or culvert construction over jurisdictional areas

Foreman in charge of utility activities

The Contractor may request to use the same person as the Level II Supervisor and Level II Foreman. This person shall be on site whenever construction activities as described above are taking place. This request shall be approved by the Engineer prior to work beginning.

The Contractor may request to name a single Level II Foreman to oversee multiple construction activities on small bridge or culvert replacement projects. This request shall be approved by the Engineer prior to work beginning.

- (C) *Certified Installers* - Provide at least one onsite, certified installer for each of the following erosion or sediment / stormwater control crew:

Seeding and Mulching

Temporary Seeding

Temporary Mulching

Sodding

Pipe installations within jurisdictional areas

Riprap placement

Erosion control blanket installation

Turbidity curtain installation

Hydraulic tackifier installation

Ditch liner / matting installation

Rock ditch check / sediment dam installation

Inlet protection

Silt fence or other perimeter erosion / sediment control device installations

Stormwater BMP installations (such as but not limited to level spreaders, retention / detention devices)

If a *Certified Installer* is not onsite, the contractor may substitute a Level I Installer with a Level II Foreman, provided the Level II Foreman is not tasked to another crew requiring Level II Foreman oversight.

III. Preconstruction Meeting

Furnish the names of the *Certified Erosion & Sediment Control Stormwater Supervisor, Certified Foremen* and *Certified Installers*, and notify the Engineer of changes in certified personnel over the life of the contract within 2 days of change.

IV. Ethical Responsibility

Any company performing work for the North Carolina Department of Transportation has the ethical responsibility to fully disclose any reprimand or dismissal of an employee resulting from improper testing or falsification of records.

V. Revocation or Suspension of Certification

Upon recommendation of the Chief Engineer - Operations to the certification entity, certification for Supervisors, Certified Foremen and Certified Installers may be revoked or suspended with the issuance of a *Continuing Immediate Corrective Action (Continuing ICA), Notice of Violation, or Cease and Desist Order* for erosion and sediment control / stormwater related issues.

Should any of the following circumstances occur, the Chief Engineer - Operations may suspend or permanently revoke such certification.

Failure to adequately perform the duties as defined within the certification program

Issuance of a continuing ICA, NOV, or Cease and Desist Order

Certified Foremen are incidental to the project for which no direct compensation will be made.

Certified Installers are incidental to the project for which no direct compensation will be made.

DB1G180

CLEARING AND GRUBBING

With the exception of areas with Permanent Utility Easements, perform clearing on this project to the limits established by Method "III" shown on Standard No. 200.03 of the NCDOT Roadway Standard Drawings. In areas with Permanent Utility Easements clearing shall extend to the Right of Way limits.

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 **their** use any timber on the project. All timber cut during the clearing operations is to become the property of the Design-Build Team, and shall be either removed from the project by the Design-Build Team, or else shall be satisfactorily disposed of as hereinafter provided by the Design-Build Team.

DB2 R01

BUILDING AND APPURTENANCE REMOVAL / DEMOLITION

(12-05-06)

Unless otherwise noted in the GeoEnvironmental Scope of Work and as agreed upon by the Department, remove or demolish all buildings and appurtenances, in their entirety, that are located either partially or completely within the project's right of way limits or are located outside the project's right of way limits but within property purchased as an uneconomical remnant **in** accordance with Sections 210 and 215 of the *2002 Standard Specifications* and the following:

- Prior to removal or demolition of any building, comply with the notification requirements of *Title 40 Code of Federal Regulations*, Part 61, Subpart M, which are applicable to asbestos. Give notification to the North Carolina Department of Health and Human Services, Division of Public Health Epidemiology Branch and/or the appropriate county agency when the county performs enforcement of the Federal Regulation. Submit a copy of the notification to the Engineer prior to the any building removal or demolition.
- Perform removal and disposal of asbestos in accordance with the requirements of *Title 40 Code of Federal Regulations*; comply with all Federal, State and local regulations when performing building removal and/or asbestos removal and disposal. Any fines resulting from violations of any regulation are the sole responsibility of the Design-Build Team and the Design-Build Team agrees to indemnify and hold harmless the Department against any assessment of such fines.
- It shall be the responsibility of the Design-Build Team to perform all asbestos assessment for **all** buildings and appurtenances located either partially or completely within the project's right of way limits, **including right or way purchased by the Department**, or located outside the project's right of way limits but within property

purchased as an uneconomical remnant including property purchased as uneconomical remnants by the Department. The cost of all asbestos assessments required shall be borne by the Design-Build Team and included in the lump sum bid cost for the project. The cost of asbestos removal and disposal will be paid for in accordance with Article 104-7 of the Standard Special Provisions, Division 1 (found elsewhere in this RFP). When a building has had or will have asbestos removed and the Design-Build Team elects to remove the building such that it becomes a public area, the Design-Build Team shall be responsible for any additional costs incurred including final air monitoring.

DB2 R12

EMBANKMENT MONITORING (1-20-06)

SETTLEMENT GAUGES:

Settlement plates consisting of wood or metal shall be placed on a level surface near natural ground as shown in the plans. Extend a 2½" (63.5 mm) ø metal pipe by adding pipe sections at threaded couplings as the embankment is progressed. Make sure that the top of the extension section is no less than 1 foot (0.3 m) above the embankment surface and no higher than 6 feet (1.8 m). Compact fill around the gauge pipes and plates to the same density as the surrounding material. Make the exposed length of pipe conspicuous to avoid chance of damage.

Conduct operations in such a manner that the gauges are not damaged. Restore or replace any settlement gauge pipe damaged or destroyed due to fault or negligence on the part of the Design-Build Team at no additional cost. No additional payment will be made for compaction of fill around and over the settlement gauges or for interference with the Design-Build Team's operations resulting from settlement gauge installations. Perform installation operations such that the 2½" (63.5 mm) ø pipe remains plumb.

Provide ASTM A53 Type F 2½" (63.5 mm) ø pipe, threaded with a black finish.

MONITORING:

Settlement gauges shall be installed before any fill is placed. Settlement gauge elevations are to be surveyed weekly by the Design-Build Team. The initial elevation of the settlement gauge plate (at the top of the plate) shall be determined at the time of installation along with the embankment elevation. When new sections of pipe are added, elevations shall be recorded at the top of existing pipe and at the top of the new pipe. This is to take into account interim settlement, variable pipe lengths and thread lengths in coupling. Results of settlement gauge readings shall be forwarded to NCDOT Geotechnical Engineering Unit along with the letter by the prequalified geotechnical firm releasing the embankment from the waiting period.

DB2 R75

PRICE ADJUSTMENTS FOR ASPHALT BINDER (11-21-00)

Adjustments will be made to the payments due the Design-Build Team for each grade of asphalt binder when it has been determined that the monthly average terminal F.O.B. Selling Price of asphalt binder, Grade PG 64-22, has fluctuated from the Base Price Index for Asphalt Binder included in this Project Special Provision. The methods for calculating a Base Price Index, for calculating the monthly average terminal F.O.B. Selling Price and for determining the terminals used are in accordance with procedures on file with the Department's Construction Unit.

When it is determined that the monthly average terminal F.O.B. Selling Price of asphalt binder on the first business day of the calendar month during which the last day of the partial payment period occurs, varies either upward or downward from the Base Price Index, the partial payment for that period will be adjusted. The partial payment will be adjusted by adding the difference (+ or -) of the base price index subtracted from the monthly selling price multiplied by the total theoretical quantity of asphalt binder authorized for use in the plant mix placed during the partial payment period involved.

The Base Price Index for this project is \$ **315.36** per ton.

DB6 R25

PRICE ADJUSTMENTS - ASPHALT CONCRETE PLANT MIX (2-6-06)

Revise the *2002 Standard Specifications* as follows:

Page 6-20, Article 609-8 and Page 6-36, Article 610-13

Add the following paragraph before the first paragraph:

The “Asphalt Price” used to calculate any price adjustments set forth in this section shall be \$35 per theoretical ton. This price shall apply for all mix types.

DB6 R26

CRANE SAFETY (08-15 -05)

Comply with the manufacturer specifications and limitations applicable to the operation of any and all cranes and derricks. Prime contractors, sub-contractors, and fully operated rental companies shall comply with the current Occupational Safety and Health Administration regulations (OSHA).

Submit all items listed below to the Engineer prior to beginning crane operations involving critical lifts. A critical lift is defined as any lift that exceeds 75 percent of the manufacturer’s crane chart capacity for the radius at which the load will be lifted or requires the use of more than one crane. Changes in personnel or equipment must be reported to the Engineer in writing and all applicable items listed below must be updated and submitted prior to continuing with crane operations.

Crane Safety Submittal List

Competent Person: Provide the name and qualifications of the “Competent Person” responsible for crane safety and lifting operations. The named competent person will have the responsibility and authority to stop any work activity due to safety concerns.

Riggers: Provide the qualifications and experience of the persons responsible for rigging operations. Qualifications and experience should include, but not be limited to, weight calculations, center of gravity determinations, selection and inspection of sling and rigging equipment, and safe rigging practices.

Crane Inspections: Inspection records for all cranes shall be current and readily accessible for review upon request.

Certifications: Crane operators performing critical lifts shall be certified by NC CCO (National Commission for the Certification of Crane Operators), or satisfactorily complete the Carolinas AGC's Professional Crane Operator's Proficiency Program. Other approved nationally accredited programs will be considered upon request. All crane operators shall also have a current CDL medical card. Submit a list of anticipated critical lifts and corresponding crane operator(s). Include current certification for the type of crane operated (small hydraulic, large hydraulic, small lattice, large lattice) and medical evaluations for each operator.

HIGH TENSION CABLE BARRIER SYSTEM

**** NOTE ** Deleted High Tension Cable Barrier System Project Special Provision**

**** NOTE ** Deleted High Tension Cable Barrier System Project Special Provision**

PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT (9-21-06)

GENERAL

The culvert at Wicker Branch shall be a single span three-sided structure constructed of precast reinforced concrete members and / or prestressed concrete members and shall be subject to the requirements of Sections 1077, 1078 of the *2002 Standard Specifications*, and any other applicable parts of the *2002 Standard Specifications* with the exceptions and additions specified in this special provision.

Design the precast culvert sections in accordance with *AASHTO M259*. Precast wing walls will not be allowed. For culverts with less than 2 feet of fill cover, design the precast culvert sections in accordance with *AASHTO M273*. Detail the culvert with cast-in-place wings.

period shall be for the duration of the contracted project with which the person was involved. *Former Involvement* shall be defined as active participation in any of the following activities:

- Drafting the contract
- Defining the scope of the contract
- Selection of the Design-Build Team
- Negotiation of the cost of the contract (including calculating manhours or fees); and
- Administration of the contract.

An exception to these terms may be granted when recommended by the Secretary and approved by the Board of Transportation.

Failure to comply with the terms stated above in this section shall be grounds for termination of this contract and / or not being considered for selection of work on future contracts for a period of one year.

SUBMITTAL OF TECHNICAL AND PRICE PROPOSALS

Technical and / or Price Proposals that do not adhere to all the requirements noted below may be considered non-responsive and may result in the Department not considering the Design-Build Team for award of the contract or reading their Price Proposal publicly.

GENERAL

Technical and Price Proposals will be accepted until **4:00 P.M. Local Time on Friday, January 5, 2007**, at the office of the State Contract Officer:

Mr. Randy A. Garris, PE
 NCDOT - Project Services Unit
 1020 Birch Ridge Drive
 Century Center Complex Bldg. B
 Raleigh, NC 27610

No Proposals will be accepted after the time specified.

Proposals shall be submitted in 2 separate, sealed parcels containing the Technical Proposal in one and the Price Proposal in the other parcel.

TECHNICAL PROPOSAL

Technical Proposals shall be submitted in a sealed package. The outer wrapping shall clearly indicate the following information:

Technical Proposal
 Submitted By: (Design-Build Team's Name)
 Contract Number C201304
 TIP Number R-2616
 Union County
 US 601 from north of the South Carolina State Line to north of SR 2105

ROADWAY SCOPE OF WORK (11-15-06)

General

The Design-Build Team shall adhere to the *Roadway Design Guidelines for Design-Build Projects*, which by reference is incorporated herein and made a part of the contract.

Project Details

- Along US 601, the Design-Build Team shall design and construct a four-lane divided facility with a 46-foot median, unless noted otherwise, from north of the South Carolina State Line to north of Marion Lee Road (SR 2105). Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design and construct the -L- Line providing access, widening and improvements as indicated on the Right of Way Plans provided by the Department. Both the southern and northern project termini shall transition to the existing five-lane curb and gutter typical sections. The limits of -L- Line construction shall be of sufficient length to tie to existing based upon the current guidelines and standards.
- US 601 shall be designed and widened to a four-lane facility that meets a 60-mph design speed for a rolling rural principal arterial. The Design-Build Team shall provide all other design criteria for review and acceptance prior to submittal of Preliminary Plans.
- With the exception of the locations noted below, the Design-Build Team shall design and construct at-grade intersections with directional crossovers and median U-Turn bulb-outs at locations shown on the Right of Way Plans provided by the Department.
 - The median U-Turn bulb-out at approximately Station 213+50 -L-, shall be eliminated.
 - A minimum of one additional northbound median U-Turn bulb-out shall be provided north of -Y14- (McRorie Road). The additional northbound U-Turn bulb-out(s) shall not impact jurisdictional areas. The Design-Build Team shall indicate in the Technical Proposal the number, location and impacts of the proposed additional median U-Turn bulb-out(s).

The directional crossovers shall be designed and constructed in accordance with the NCDOT's Standard Detail for Directional Crossover with Median U-Turn. The directional crossovers shall be designed and constructed to prevent counterflow movements, including but not limited to elongated concrete channelization on the -Y- Lines. The directional crossovers shall be signed to prevent a U-Turn maneuver. (See Signing Scope of Work.) Offset left-turn access shall be provided along the mainline as shown on the Right of Way Plans provided by the Department. The design vehicle for all bulb-outs shall be a WB-50 with a 50-foot turning radius.

- At the US 601 / Lansford Road intersection, the Design-Build Team shall design and construct a 2' mountable concrete island that allows emergency vehicles access across US 601. The Design-Build Team shall provide signing that indicates emergency vehicle use only. All other channelization islands shall be 5' monolithic concrete islands keyed into the pavement.
- The Design-Build Team shall design and construct -Y- Lines and cul-de-sacs, providing access, widening and improvements as indicated on the Right of Way Plans provided by the Department. All -Y- line intersections with the mainline shall accommodate a WB-50. The limits of -Y- Line construction shall be of sufficient length to tie to existing based upon the current guidelines and standards.

- Along US 601, the Design-Build Team shall design and construct ten-foot outside usable shoulders, four-foot of which shall be full depth paved shoulders and six-foot median shoulders, two-foot of which shall be full depth paved shoulders.
- Along US 601, milled rumble strips shall be provided on the outside and inside paved shoulders.
- The Design-Build Team shall design and construct bridge rail offsets as indicated in the *NCDOT Roadway Design Manual* or that are equal to the approach roadway paved shoulders, whichever is greater.
- The Department has obtained the permits required for the project. (Reference the Permits found elsewhere in this RFP) Any required coordination with the Environmental Agencies, approvals from the Environmental Agencies, public involvement and / or permit modifications resulting from a variation in the Department's proposed design and / or construction method, or utility relocation / construction shall be the sole responsibility of the Design-Build Team. The Department will not allow any contract time extensions associated with obtaining a permit modification, public involvement or additional agency coordination / approvals (Reference Environmental Permits Scope of Work).
- The Design-Build Team shall design and construct resurfacing grades for all roadways impacted by construction. The Design-Build Team shall design and construct grades that adhere to the design criteria and standards, providing all required pavement wedging.
- The maximum permanent allowable cut slope or fill slope on this project shall be 2:1, unless noted otherwise in this RFP.
- At locations shown on the Right of Way Plans provided by the Department, the Design-Build Team shall design and construct reinforced grass median and outside shoulders that shall be composed of paving blocks. The median and outside reinforced shoulders shall be 6' wide and 4' wide, respectively; The reinforced shoulders shall be capable of supporting a minimum of 18,000 pounds per axle as per the paving block manufacturer's specifications. Prior to incorporating the reinforced shoulders, the specifications shall be reviewed and accepted by the Department.
- The Design-Build Team shall inform NCDOT, in writing, of any proposed changes to the NCDOT preliminary design, previously reviewed submittals or the Design-Build Team's Technical Proposal and obtain approval prior to incorporation. The Design-Build Team shall note in the Technical Proposal any proposed deviations to the Right of Way Plans provided by the Department.
- No Design Exceptions shall be allowed for the proposed four-lane facility on US 601. NCDOT prefers not to have design exceptions for the -Y- Lines. If the Design-Build Team anticipates any design exceptions, they shall be clearly noted in the Technical Proposal. Prior to requesting / incorporating a design exception, the Design-Build Team must obtain prior approval from the Department and FHWA. If approval is obtained, the Design-Build Team shall be responsible for the development and approval of all design exceptions.

- All guardrail / guiderail placement shall be in accordance with the *NCDOT Standard Drawings* and / or approved details in lieu of standards. The guardrail design shall be submitted for review with the Preliminary Plans submittal.

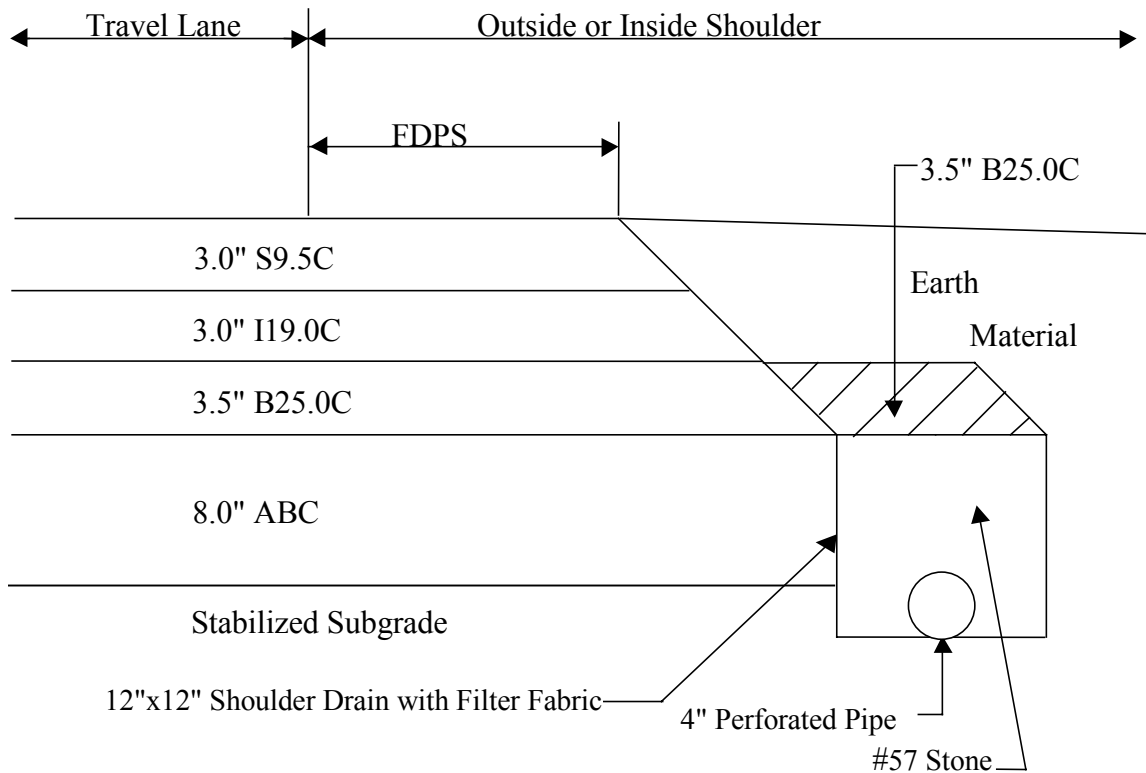
**** NOTE ** Deleted Median Barrier Bullet**

- The Design-Build Team shall design and construct concrete median barrier in front of all retaining walls and elements acting as a retaining wall that are subject to vehicular impact.

NCDOT Information Supplied

- The NCDOT will provide copies of the EA (Environmental Assessment), FONSI (Finding of No Significant Impact), Reevaluation of EA and FONSI, and the latest list of environmental commitments, municipal agreements and all pertinent approvals and correspondence. The Design-Build Team shall adhere to all commitments stated in the environmental documents.
- The NCDOT will provide electronic surveys to the Design-Build Team. Subsequent to acquiring these surveys, US 601 has been resurfaced with an overlay varying in depth from 1.5" to 3.25" and approximately two-foot wide shoulders constructed. The electronic surveys provided by the Department do not reflect the additional pavement overlay or shoulder construction. Any supplemental surveys, including but not limited to additional topography, existing and proposed roadway, structure sites, underground and overhead utilities, existing and proposed drainage, wetland delineation, right of way, parcel names, and deed research and descriptions shall be the responsibility of the Design-Build Team to acquire and process. Known existing utilities have been located and will be included with the survey data. All supplemental SUE work shall be the responsibility of the Design-Build Team.
- The NCDOT will provide Right of Way Plans for R-2616. The Design-Build Team is cautioned that the preliminary design shown on the Right of Way Plans provided by the Department is provided solely to assist the Design-Build Team in the development of the project design. The Design-Build Team shall be fully and totally responsible for the accuracy and completeness of the project design, including, but not limited to, the use of

If the Design-Build Team selects **Alternate 2** for the mainline new construction, the detail for shoulder drain construction shall be as follows:



In areas of new construction, shoulder drains shall be installed at locations listed in the table below. In areas of widening and resurfacing, shoulder drains will not be required. The Design-Build Team shall be responsible for redesigning the proposed shoulder drain locations that result from modifications to the Department’s proposed vertical alignment. If necessary, the Design-Build Team shall design shoulder drain locations in accordance with the most recent version of the NCDOT’s Pavement Design Procedures and submit the designs to the State Alternative Delivery Engineer for review and acceptance. The Design-Build Team shall be responsible for verifying that the following shoulder drain locations and outlets provide adequate drainage for the pavement and install additional shoulder drains if necessary.

LINE	SIDE	Begin Station	End Station	OUTLET LOCATIONS
-L-	NBL, Median	22+45	30+00	24+33± (2GI), 26+50 (2GI)
-L-	NBL, Outside	30+05	33+78	30+05
-L-	NBL, Outside	33+78	43+00	37+50, 39+57±
-L-	NBL, Outside	117+00	119+83	117+00
-L-	NBL, Median	120+50	124+69	120+50 (2GI)
-L-	NBL, Median	124+69	128+25	128+25 (2GI)
-L-	NBL, Outside	174+00	185+00	177+50, 179+69±, 181+00
-L-	NBL, Median	202+00	210+00	205+82± (2GI)
-L-	NBL, Outside	227+50	235+00	230+50, 232+33±

HYDRAULICS SCOPE OF WORK (11-15-06)

- The Design-Build Team shall develop all drainage designs in accordance with criteria provided in the North Carolina Division of Highways “*Guidelines for Drainage Studies and Hydraulics Design-1999*” and the addendum “*Handbook of Design for Highway Drainage Studies-1973*” and the NCDOT Hydraulic Unit Website.
- With respect to stormwater management, sediment and erosion control, and riparian buffers, the Design-Build Team shall incorporate into the design and construction the requirements for WS-IV and WE-V Waters as specified in 15A NCAC 2B .0216 (WS-IV), .0217 (Stormwater Control Criteria), and .0218 (WS-V) for the entire project length.
- Due to crossings of water supply watershed waters and the presence of 303(d)-listed streams, the Design-Build Team shall incorporate *Design Standards in Sensitive Watersheds* into the design and construction.
- The minimum ditch grade shall be 0.3%, unless shown otherwise on the Right of Way Plans provided by the Department.
- Ditches shall not be allowed in wetlands.
- Within the clear zone, parallel driveway pipes shall not be allowed.
- The low point of sag vertical curves shall not be allowed on bridges or bridge approaches.
- For pipes up to 48” in diameter and not located under travelways or curb and gutter, Type S or Type D, HDPE pipe meeting the requirements of AASHTO M294 or Aluminized Corrugated Steel Pipe, Type IR meeting the requirements of Article 1032-3(A)-7 of the NCDOT Standard Specifications may be used instead of Reinforced Concrete Pipe, Class III. Installation of both alternate pipe materials shall conform to the requirements of Section 300 of the Standard Specifications for Method A, except that the minimum cover shall be at least 12 inches.
- The Design-Build Team shall design and install all storm drainage.
- The Department will provide an approved Bridge Survey Report for the proposed dual structures over Lanes Creek. The Design-Build Team shall provide an updated Bridge Survey Report for the bridge(s) over Lanes Creek if modifications to the proposed design and / or construction methods nullify the Department's aforementioned approved Bridge Survey Report. The Design-Build Team shall be responsible for Bridge Survey Reports for all other proposed bridges. An increase of the Base Flood Elevation shall not be allowed at any proposed bridge.
- The Department will provide approved Culvert Survey Reports for the reinforced concrete box culverts shown on the Right of Way Plans provided by the Department at Mill Creek, Cowpens Branch and the tributary to Cowpens Branch. The Design-Build Team shall provide updated Culvert Survey Reports for these crossings if modifications to the proposed design and / or construction methods nullify the Department's

aforementioned approved Culvert Survey Reports. The Design-Build Team shall be responsible for the Culvert Survey Reports for the bottomless structure at Wicker Branch and all other culverts providing conveyance greater than a 72" diameter pipe. **An increase of the Base Flood Elevation shall not be allowed at any culvert.**

- The Design-Build Team shall remove and dispose of all existing reinforced concrete box culverts. The Design-Build Team shall design and install new structures at the existing box culvert locations, providing a bottomless structure at Wicker Branch, unless noted otherwise elsewhere in this RFP. (Reference Structure Scope of Work and the Precast Reinforced Concrete Three-Sided Culvert Project Special Provision found elsewhere in this RFP)
- Hazardous Spill Basins shall be provided for two unnamed tributaries in the critical area of the Lake Lee Watershed, located north and south of Marion Lee Road (SR 2105), at locations shown on the Right of Way Plans provided by the Department.
- A hazardous spill basin shall be located at the north end of the Lanes Creek Bridge, at the location shown on the Right of Way Plans provided by the Department.
- The Design-Build Team shall provide a Stormwater Management Plan.
- The Department has obtained a US Army Corps of Engineers Section 404 Permit and a NC Department of Natural resources (DENR), Division of Water Quality (DWQ) Section 401 Water Quality Certification. (Reference the Permits found elsewhere in this RFP) Any variations in the Department's proposed design and / or construction methods that require a permit modification shall be the sole responsibility of the Design-Build Team. As a minimum, the Design-Build Team shall be responsible for preparing all designs and documents, including but not limited to permit impact sheets, required to obtain a permit modification (Reference the Environmental Permits Scope of Work).
- **The Department will provide the Pre and Post Analysis methodology for increases in discharge for the hydraulic design shown on the Right of Way Plans provided by the Department. If modifications to the Department's hydraulic design nullify this Pre and Post Analysis, the Design-Build Team shall address revisions to the Pre and Post Analysis in the Technical Proposal.** The Design-Build Team shall be responsible for taking the appropriate action, in accordance with the above referenced guidelines, to make sure additional drainage is adequately handled.
- The Design-Build Team shall be responsible for the coordination of the final hydraulic design with Union County.
- **The Design-Build Team shall provide a set of certified as-built roadway and structure plans for the Department's submittal to the NC Floodplain Mapping Program.**

CEMENT AND LIME STABILIZATION OF SUBGRADE SOILS SCOPE OF WORK

GENERAL

The scope of work for cement and lime stabilization of subgrade soils shall consist of the following:

1. Performing all laboratory tests in a laboratory certified by the AMRL / NCDOT Laboratory Proficiency Program
2. Sampling subgrade soils
3. Conducting laboratory test to determine:
 - a. Soil classifications
 - b. Moisture-density relationships
 - c. Quantity of lime or cement required to achieve specified strengths
4. Designating areas to be stabilized by either lime or cement and the required rates of application.
5. Conducting field tests to determine unconfined compressive strength

SAMPLING

The Design-Build Team shall take soil samples after the project has been graded to within 2 inches of final subgrade elevation. The Design-Build Team shall sample the top 8 inches at a minimum frequency of one sample per 1,000 feet per each lane for classification tests; and one sample per 2,000 feet per each lane for moisture density tests and lime or cement mix design tests. Additional samples shall be taken to ensure that all the predominant soil types, limits of distribution of these soils, and different site conditions have been represented.

CLASSIFICATION TESTS

The Design-Build Team shall perform the following tests to determine AASHTO classifications of different soils in accordance with AASHTO specifications as modified by NCDOT. Copies of these modified procedures can be obtained from the NCDOT Materials and Test Unit's Soils Laboratory

TABLE 1

<u>TEST</u>	<u>AASHTO DESIGNATION</u>
Dry Preparation of Disturbed Soils	T-87
Particle Size Analysis of Soils	T-88
Determining the Liquid Limit of Soils	T-89
Determining the Plastic Limit and Plasticity Index of Soils	T-90

MOISTURE DENSITY TEST

Based on the criteria shown in Table 2, below, the Design-Build Team shall perform the moisture density Tests, using either lime or cement. The Design-Build Team shall use 10%

cement by weight in soil cement and 4% lime by weight, in soil-lime mixtures. The Design-Build Team shall conduct the tests in accordance with AASHTO T-99, and T-134 for soil-lime and soil-cement mixtures, respectively. In each case, the Design-Build Team shall determine the maximum dry density and optimum moisture content.

TABLE 2

<u>CRITERIA FOR SELECTING LIME OR CEMENT</u>		
PROPERTY	A	B
Percent passing #200 Sieve	35 Max	36 Min
Liquid Limit	40 Max	41 Min
Plasticity Index	10 Max	25 Min

The Design-Build Team shall use cement for all soils meeting criteria in Column A and lime for all soils meeting criteria in Column B. The Design-Build Team may choose either lime or cement for all soils not meeting all criteria in either Column A or B.

DETERMINING THE APPLICATION RATES FOR SOIL-CEMENT AND SOIL-LIME MIXTURES

SOIL-CEMENT MIXTURES

For soil-cement mixtures, the Design-Build Team shall be required to do the following:

- Make specimens at optimum moisture content using a quantity of cement in the range of 5 to 12 percent by weight.
- Compact the specimens to a minimum density of 95% of maximum dry density obtained using AASHTO T 134.
- Make a minimum of 2 specimens for each selected cement rate.
- Cure the specimens for 7 days in a moist room maintained at a temperature of 73°F ±2.7° and a humidity of 100%. At the end of the curing period, immerse the specimens in water for 4 hours.
- After immersion, test the specimens in unconfined compression in accordance with ASTM D 1633.
- Report the maximum strength obtained and the corresponding percent strain.
- Select the rate of cement that provides a minimum unconfined compressive strength of 200 psi and a maximum of 400 psi.

SOIL-LIME MIXTURES

For soil-lime mixtures, the Design-Build Team shall be required to **do the following:**

- **Make specimens at optimum moisture content using a quantity of lime in the range of 3.5 to 6.5 percent by weight.**
- Compact specimens to a minimum density of 95% of maximum dry density obtained by AASHTO T99.
- **Make a minimum of two specimens for each selected lime rate.**
- **Cure the specimens in sealed plastic bags for 48 hours in an oven at a temperature of 118 °F. Do not immerse the specimens in water at the end of the curing period.**
- **Test the specimens in unconfined compression in accordance with AASHTO T 208. Report the maximum strength obtained and the corresponding percent strain.**
- Select the rate of lime that provides a minimum unconfined compressive strength of **60 psi.**

SUBMITTALS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION

The Design-Build Team shall adhere to the following submittal guidelines:

- Submit all laboratory test results for review.
- Submit a sketch in plan view showing areas of the project to be stabilized by either lime or cement and application rates for each stabilizer.
- Submit any other documentation that supports the Design-Build Team’s recommendations.

CONSTRUCTION OF LIME TREATED SUBGRADE

The Design-Build Team shall construct the lime treated subgrade as specified in Section 501 of the North Carolina Department of Transportation *Standard Specifications for Roads and Structures* with the following exceptions:

Subsection 501-4 Equipment

Contractor’s equipment will not require Engineer's approval.

Subsection 501-8 (A) General

Paragraph #1 is not applicable to this project.

Subsection 501-9 (B) Preliminary Curing

Amend as follows: Allow a minimum of 2 days and a maximum of 4 days for preliminary curing.

Subsection 501-10 Compacting, Shaping, and Finishing

Last paragraph is not applicable.

Subsection 501-11 Thickness

Last two paragraphs are not applicable.

Subsection 501-15 Method of Measurement

The entire sub-section is not applicable.

Subsection 501-16 Basis of Payment

The entire sub-section is not applicable.

CONSTRUCTION OF CEMENT TREATED SUBGRADE

The Design-Build Team shall construct the soil cement subgrade as specified in section 542 of the North Carolina Department of Transportation *Standard Specifications for Roads and Structures*, with the following exceptions:

Subsection 542-4 Equipment

Contractor's equipment will not require Engineer's approval.

Subsection 542-7 Application of Cement

First paragraph is not applicable.

Subsection 542-11 Thickness

Paragraphs 2 and 3 are not applicable.

Subsection 542-16 Method of Measurement

The entire sub-section is not applicable.

Subsection 542-17 Basis of Payment

The entire sub-section is not applicable.

UNCONFINED COMPRESSIVE STRENGTH

The Design-Build Team shall allow a minimum of seven days curing before testing for strength.

The lime-stabilized subgrades shall be tested using Dynamic Cone Penetrometer (DCP) in accordance with *Quality Assurance Testing of Lime-Treated Soils Utilizing the Dynamic Cone Penetrometer*, Test Method #1-2005. The Design-Build Team shall adhere to the testing equipment requirements and procedures as outlined in *Dynamic Cone Penetrometer Testing for Subgrade Stability* except that the minimum penetration depth shall be eight inches. Upon request, a copy of the aforementioned documents can be obtained from the NCDOT Geotechnical Engineering Unit. The required unconfined compressive strength for lime shall be 60 psi, which corresponds to a penetration per blow of approximately 0.5 inches of the Dynamic Cone Penetrometer.

For cement-stabilized subgrades, the Design-Build Team shall make field specimens, cure them for seven days and test them in the laboratory. The minimum and maximum required unconfined compressive strength for soil cement shall be 200 psi and 400 psi, respectively.

For both lime and cement stabilized subgrades, one test shall be required for every 400 feet per lane width at random locations selected using random number tables.

SUBMITTALS FOR REVIEW DURING CONSTRUCTION

The Design-Build Team shall submit the unconfined compressive strength and dynamic cone penetrometer test results for review and acceptance.

The Design-Build Team shall submit one permit modification application for the entire project. The Design-Build Team shall not submit multiple applications to develop a “staged permitting” process to expedite construction activities in a phased fashion.

Should the Design-Build Team’s design and / or construction methods, including utility relocations / construction, require a permit modification, the Design-Build Team shall be responsible for acquiring information and preparing permit drawings that reflect the impacts and minimization efforts resulting from the Merger 01 Process and as designed by the Design-Build Team. Further, the Design-Build Team shall be responsible for developing and providing the permit impact sheets (drawings) depicting the design and construction details to the Department as part of any permit modification application. The Design-Build Team shall be responsible for developing all permit modification applications resulting from changes in jurisdictional impacts. The permit modification application shall consist of, at a minimum, the following:

- Cover Letter
 - Permit drawings
 - Half-size plans
 - Completed forms (ENG 4345, Section 404, etc.) appropriate for impacts
 - EEP acceptance letter, if necessary
- Jurisdictional resource verifications and protected species surveys were completed August 15, 2006, the date of permitting. As long as construction begins prior to December 17, 2007 and no additional jurisdictional areas (areas outside the permitted areas and / or the project study area, as shown in the Reevaluation of Environmental Assessment and Finding of No Significant Impact - Signed August 31, 2004) are impacted, neither jurisdictional resource re-verification nor species surveys will be required. Otherwise, the Design-Build Team shall re-verify and update all required environmental data. These include, but are not limited to, federally protected species, re-verification of wetland jurisdictional areas, historic and archaeological sites, and 303d (impaired) streams. The Design-Build Team shall draft a letter, for the Project Development and Environmental Analysis Branch’s (PDEA) signature, requesting concurrence from the United States Fish and Wildlife Service to document compliance with Section 7 of the Endangered Species Act for those species requiring such concurrence.

**** NOTE ** Deleted original dates of verification / concurrence.**

Direct coordination between the Design-Build Team, the Department’s Alternative Delivery Engineer, Resident Engineer, Division Environmental Officer and the Natural Environment Unit (PDEA-NEU) shall be necessary to ensure proper development of the permit modification application. Upon completion of the permit modification application package, the Design-Build Team shall forward the package to the Alternative Delivery Engineer, Resident Engineer, Division Environmental Officer and PDEA-NEU concurrently, for review and acceptance. The PDEA-NEU will subsequently forward the package to the appropriate agencies to have the permit modification application placed on public notice to reflect the details.

Any temporary construction measures, including de-watering, construction access, etc. shall be addressed in the permit modification application. Impacts that result from so-called temporary measures may not be judged to be temporary impacts by the resource agencies.

The Design-Build Team shall clearly indicate the location of and impacts of haul roads and utility relocations / construction on jurisdictional areas. The Design-Build Team shall also

identify all proposed borrow and waste sites. These details shall be included in the permit modification application data. Further, the Design-Build Team shall describe the methods of construction of all structures. The description of the temporary impacts on jurisdictional resources (haul roads, utility relocations, work bridges, etc.) shall include restoration plans, schedules, and disposal plans. This information shall be included in the permit modification application.

The NCDOT hereby commits to ensuring, to the greatest extent possible, that the footprint of the impacts in areas under the jurisdiction of the federal Clean Water Act shall not be increased during the Design-Build effort. All fill material shall be immediately stabilized and maintained to prevent sediment from entering adjacent waters or wetlands. The Design-Build Team shall be responsible for ensuring that the design and construction of the project will not impair the movement of aquatic life.

Permit Modification Timeframe

The Design-Build Team should expect the environmental agency review time for a permit modification to be approximately 60 days from receipt of a “complete” package. No requests for additional contract time or compensation shall be allowed for pursuing a permit modification. With the exception of location and survey work and permitted investigative borings covered under a Nationwide Permit No. 6, no mobilization of men, materials, or equipment for site investigation or construction of the project shall occur in jurisdictional areas impacted by design revisions, construction methods, and / or utility relocations / construction prior to obtaining the required permit modification. This limitation does not preclude the off-site fabrication of bridge members or equipment.

The Department shall not honor any requests for additional contract time or compensation, including idle equipment or mobilization or demobilization costs, for the Design-Build Team mobilizing men, materials (or ordering materials), or equipment necessary for construction activities in jurisdictional resources prior to obtaining a required permit modification.

The Design-Build Team needs to be aware that the timeframe listed above for review by NCDWQ and the US Army Corps of Engineers begins only after a complete and accurate submittal.

Mitigation Responsibilities of the Design-Build Team

The N.C. Ecosystem Enhancement Program (EEP) has agreed to provide compensatory mitigation for unavoidable impacts to wetlands and surface waters resulting from the project construction. Compensatory mitigation for the impacts resulting from the Department's Right of Way Plans, which do not incorporate utility construction / relocations, will be provided in accordance with the Memorandum of Agreement (MOA) between the North Carolina Department of Environment and Natural Resources, the NCDOT and the US Army Corps of Engineers. The Design-Build Team will not be responsible for any portion of the work performed at these mitigation sites.

Any changes proposed by the Design-Build Team, to any design or construction details provided by the Department shall be approved by the Department prior to being submitted to the resource agencies for their approval.

Should additional jurisdictional impacts result from design and / or construction details revised by the Design-Build Team, and / or result from utility relocations or construction, suitable compensatory mitigation for wetlands and / or streams shall be the sole responsibility of the

Design-Build Team. Therefore, it is important to note that additional mitigation shall require approval by the environmental agencies; and such approval shall require, at a minimum, the Design-Build Team to prepare and obtain approval of a mitigation plan before a permit modification is approved and before construction shall commence in the impacted jurisdictional areas. The Design-Build Team shall be responsible for all costs / fees associated with any required additional mitigation.

The Design-Build Team shall analyze any new areas to be impacted that were not analyzed during the NEPA process and / or preparation of the permit application. This analysis shall include performing all environmental assessments. These assessments shall require the Design-Build Team to engage the services of a competent environmental consultant to conduct a full environmental investigation to include, but not be limited to, Federally Listed Threatened and Endangered Species, wetlands, streams, avoidance and minimization in jurisdictional areas, compensatory mitigation, FEMA compliance, historical, archaeological, and cultural resources surveys in these areas. The environmental consultant shall obtain concurrence through PDEA-NEU from the United States Fish and Wildlife Service to document compliance with Section 7 of the *Endangered Species Act* for those species requiring such concurrence. In addition, the Design-Build Team shall identify and be responsible for all additional mitigation required; identify the amount of time the modification will take; and fulfill any other requirements that may be imposed by the permitting agencies to obtain the permit modification. No contract time extensions resulting from additional environmental assessments required by the Design-Build Team's design and / or construction details impacting areas outside those previously analyzed through the NEPA Process, or utility relocations / construction will be granted.

If any staging areas are located outside the project's right-of-way, the Design-Build Team shall engage the services of a competent environmental consultant to conduct a full environmental investigation to include, but not be limited to, Federally Listed Threatened and Endangered Species, wetlands, streams, avoidance and minimization in jurisdictional areas, compensatory mitigation, historical, archaeological, and cultural resources surveys in these areas.

If the Design-Build Team discovers any previously unknown historic or archeological remains while accomplishing the authorized work, they shall immediately notify NCDOT Staff Archaeologist and / or NCDOT Project Development Engineer, as listed below, who will initiate the required State / Federal coordination. A representative from the Alternative Delivery Unit shall also be notified. All questions regarding these sites shall be addressed to Mr. Matthew Wilkerson, NCDOT Archaeology (919) 715-1561, or Mr. Mark Pierce, PE, NCDOT Project Development Engineer (919) 733-7844, ext. 214.

Commitments

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts and to provide full compensatory mitigation of all remaining jurisdictional impacts. Avoidance measures were taken during the planning and NEPA phases and minimization measures were incorporated as part of the preliminary project design.

All work by the Design-Build Team shall be accomplished in strict compliance with the plans submitted with the Section 404, and 401 permit applications and in compliance with all conditions of the permits and certifications, or modifications thereto, issued by the agencies. The

Design-Build Team shall provide each of its contractors and / or agents associated with the design, construction or maintenance of this project with a copy of the permits.

The Design-Build Team shall strictly adhere to these commitments, as well as others, including but not limited to, those made as part of the EA, FONSI, all permits, and all concurrence meetings, unless noted otherwise elsewhere in this RFP.

GEOENVIRONMENTAL SCOPE OF WORK (11-15-06)**I. DESCRIPTION OF WORK**

The Department identified ten known areas of contamination and acquired the right of way, as required by the Department's Right of Way Plans, for the parcels listed below:

1. Anne Collins Property, Parcel 26
2. Living Water Baptist Church Property, Parcel 32
3. JSJ Associates Property, Parcel 35
4. Community Café, Inc. Property, Parcel 48
5. Roy Walter Property, Parcel 56
6. NCDOT / Maude Parker Property (previously known as Walter and Donna Laney Property), Parcel 67
7. David Segrest Property, Parcel 84
8. Robert Mills Property, Parcel 85
9. Marty Helms Property, Parcel 100
10. David Wilson Property, Parcel 134

**** NOTE **** Deleted Dorothy Medlin, Inc. Property, Parcel 95 and Cynthia Zipp Property, Parcel 101

Department Responsibilities

1. The Department will remove underground storage tanks and associated contaminated soil within 60 days of receiving written notification from the Design-Build Team that the buildings have been razed from the following sites:

Anne Collins Property, Parcel 26
David Wilson Property, Parcel 134

2. The Department will excavate contaminated soil identified as Unavoidable Excavation in the Design-Build Team's Technical Proposal within 60 days of receiving written notification from the Design-Build Team that the buildings have been razed from the following sites:

Living Water Baptist Church Property, Parcel 32
JSJ Associates Property, Parcel 35

3. The Department will excavate contaminated soil identified as Unavoidable Excavation in the Design-Build Team's Technical Proposal for the parcels noted below within 60 days after award of the project on the following sites:

NCDOT / Maude Parker Property (previously known as Walter and Donna Laney Property), Parcel 67
David Segrest Property, Parcel 84

4. The Department will abandon and relocate monitoring wells on the following site, as necessary, within 30 days of receiving a written request from the Design-Build Team for the abandonment and relocation. The Design-Build Team shall not provide this

request until acceptance of the Right of Way Plans by the State Alternative Delivery Engineer:

Community Café Property, Parcel 48

Design-Build Team Responsibilities

1. The Design-Build Team shall raze the buildings and notify the State Alternative Delivery Engineer in writing after the right of way has been cleared on the following sites:

Anne Collins Property, Parcel 26
Living Water Baptist Church Property, Parcel 32
JSJ Associates Property, Parcel 35
David Wilson Property, Parcel 134

2. On the following sites, the Design-Build Team shall (1) eliminate or minimize excavation in the areas shown on the GeoEnvironmental Plan Sheets provided by the Department; (2) quantify, in the Technical Proposal, the amount of Unavoidable Excavation required by the Design-Build Team's design and / or construction; and (3) excavate and dispose of contaminated materials caused by Excessive Excavation:.

Living Water Baptist Church Property, Parcel 32
JSJ Associates Property, Parcel 35
NCDOT / Maude Parker Property (previously known as Walter and Donna Laney Property), Parcel 67
David Segrest Property, Parcel 84

3. Due to the potential to impact underground storage tanks and contaminated areas adjacent to the right of way, the Design-Build Team shall avoid to the greatest reasonable extent possible acquiring additional right of way from the parcels noted below.

If the Design-Build Team's design and / or construction methods require additional right of way in contaminated areas, the Design-Build Team shall identify and quantify in the Technical Proposal the amount of necessary remediation, which shall be considered Unavoidable Excavation, as defined below. The required excavation and disposal of contaminated materials, as well as underground storage tank closures, not identified and quantified in the Technical Proposal shall be considered Excessive Excavation, as defined below.

Community Café Property, Parcel 48
Roy Walters Property, Parcel 56
Robert D. Mills Property, Parcel 85
Marty Helms Property, Parcel 100

Right of Way Acquisition

If the Design-Build Team's design and / or construction requires additional right of way acquisition from the contaminated sites noted above, the Design-Build Team shall adhere to all Right of Way Branch policies and procedures regarding the acquisition of contaminated property and Right of Way Acquisition Recommendations that will be provided by the Department within 60 days of receiving written notification from the Design-Build Team describing the required acquisition. The Design-Build Team shall notify the State Alternative Delivery Engineer in writing of any underground heating oil tanks found during property appraisals and allow the Department 60 days from receipt of written notification to investigate the tanks in order to provide right of way recommendations prior to acquisition. The Design-Build Team shall be responsible for adhering to the Department's right of way recommendations for these locations.

Removal of Contaminated Soil for Unavoidable Excavation

Unavoidable Excavation is defined as all excavation noted above required by the Design-Build Team's design and / or construction methods; and as submitted in the Technical Proposal. If the Design-Build Team's design requires Unavoidable Excavation on contaminated sites, the Department will remove these materials to a quantity equal to the amount noted in the Technical Proposal. In such case, the Design-Build Team shall provide three sets of plans and cross sections for the proposed excavation. For removal of these materials, the Design-Build Team shall allow the Department 60 days from (1) the time the final excavation plans and cross sections are accepted; (2) the date the property is vacated; or (3) the date the Design-Build Team provides written notification to the State Alternative Delivery Engineer that the buildings have been razed by the Design-Build Team whichever is later. If additional jurisdictional areas will be impacted, the removal performed by the Department can not occur prior to the Design-Build Team obtaining the required permit modifications.

Removal of Contaminated Soil for Excessive Excavation

Excessive Excavation is defined as any excavation on contaminated sites noted above that exceeds the amounts noted in the Technical Proposal. The Design-Build Team shall be responsible for the removal of contaminated soils only to the extent that the excavation exceeds the amount noted in the Technical Proposal. If jurisdictional areas will be impacted, the removal performed by the Design-Build Team shall not occur prior to the Team obtaining the required permit modifications. All contaminated soils shall be removed in accordance with Section IV below.

Drainage within Contaminated Areas

If excavation is required for drainage purposes within contaminated areas, and is below the water table as shown in the geotechnical profile provided by the Department, the Design-Build Team shall construct a sealed drainage system through these areas.

Contamination by Design-Build Team

The Design-Build Team shall be responsible for any costs (direct or indirect) associated with damage and or cleanup of a hazardous substance and / or oil spill caused by it or its agent. This responsibility shall extend to freight carriers hired by the Design-Build Team to deliver a commodity or service to the Department. The Design-Build Team shall

comply with all Local, State, and Federal requirements for the proper handling of hazardous substances and / or oil. In addition, the Design-Build Team agrees to indemnify and hold the Department harmless against all claims, liabilities, and costs, including attorneys' fees, incurred in the defense of any claim brought against the Department resulting from such a spill.

II. INFORMATION PROVIDED BY NCDOT

- Mary Collins Taylor Property Assessment Report, Parcel 26
- Living Waters Baptist Church Property Assessment Report, Parcel 32
- JSJ Associates Property Assessment Report, Parcel 35
- Heath Baucom Property Assessment Report, Parcel 38 (No Contamination Found)
- Community Café Property Assessment Report, Parcel 48
- Roy Walters Property Assessment Report, Parcel 56
- NCDOT / Maude Parker Property (previously known as Walter and Donna Laney Property) Assessment Report, Parcel 67
- David Segrest Property Assessment Report, Parcel 84
- Robert Mills Property Assessment Report, Parcel 85
- Dorothy Medlin Property Assessment Report, Parcel 95
- Marty Helms Property Assessment Report, Parcel 100
- Cynthia Zipp Property Assessment Report, Parcel 101 (USTs and contaminated soil removed by others)
- Shelton Corwin Property Assessment Report, Parcel 131 (No Contamination Found)
- David Wilson Property Assessment Report, Parcel 134
- Dorothy Medlin Property UST Closure Report, Parcel 95
- GeoEnvironmental Plan Sheets (March 16, 2006)
- Revised Right of Way Recommendations (February 23, 2006)

III. UNKNOWN CONTAMINATED SITES

The Design-Build Team shall immediately notify the Department when the Design-Build Team's operations encounter or expose any abnormal condition which may indicate the presence of a hazardous, contaminated, and / or toxic material not previously identified in the Preliminary Environmental Site Assessments. Unknown underground storage tanks found by the Design-Build Team within the right of way limits defined on the Right of Way Plans provided by the Department shall be considered as "Unknown Contaminated Sites". Unknown contaminated sites will be addressed in accordance with Article 107-26 of the Standard Specifications, Division One, contained elsewhere in this RFP. The Engineer may elect to have the Design-Build Team remove and dispose of contaminated material within an unknown contaminated site as a supplemental agreement in accordance with the aforementioned Article 107-26 and Section IV below, or the Department will remove and dispose of contaminated material within an unknown contaminated site within thirty (30) business days after notification, in writing, by the Design-Build Team.

EROSION AND SEDIMENTATION CONTROL SCOPE OF WORK (12/07/06)

The NCDOT REU shall review and accept all Erosion and Sedimentation Control Plans. Release for Construction (RFC) Erosion Control Plans shall be submitted to all NCDOT Personnel listed in the Design-Build Submittal Guidelines before **any** land disturbing activities can commence. If the Design-Build Team chooses to perform the work in discrete sections, then a complete set of **Final Grade** RFC Erosion Control Plans shall be submitted, accepted, and distributed as noted above prior to land disturbing activities commencing in that section. No land disturbing activities shall occur in any location that does not have accepted **Final Grade** RFC Erosion Control Plans.

Erosion and Sedimentation Control Plans shall at a minimum address the following:

I. Complete Set of Plans

A. Clearing and Grubbing Phase

1. Use correct NCDOT symbology
2. Protect existing drainage structure inlets with Rock Inlet Sediment Trap Type 'A' (RIST-A), Rock Inlet Sediment Trap Type 'C' (RIST-C), Rock Pipe Inlet Sediment Trap Type 'A' (PIST-A), etc.
3. Utilize adequate perimeter controls (temporary diversions, silt fence, etc.)
4. Utilize **Skimmer Basins** and rock measures with sediment control stone at drainage outlets (Temporary Rock Sediment Dam Type 'B' (TRSD-B), Temporary Rock Silt Check Type 'A' (TRSC-A), etc.)
5. Take into account existing topography and show contour lines
6. Utilize Temporary Rock Silt Checks Type 'B' (TRSC-B) to reduce velocity in existing ditches with spacing of 300 feet divided by percentage of ditch grade
7. Protect existing streams
8. Provide adequate silt storage for **3600** cubic feet per disturbed acre and sediment basins shall be sized with surface area equal to 0.01 times the peak inflow rate, **Q25**, using **25**-year peak **rainfall** data (*NCDENR- Erosion and Sediment Control Planning and Design Manual*). A Sediment Basin Designer Spreadsheet will be provided by the NCDOT Roadside Environmental Unit (REU) upon request.
9. Design Riser Basins to the following standards:
 - a. Surface Area shall be determined by Equation $A(\text{sq. ft.}) = Q25(\text{cfs}) * 435.6$
 - b. Riser Pipe shall have a cross-sectional area 1.5 times that of the barrel pipe
 - c. Perforations in the riser pipe shall be reduced to increase dewatering time to twenty-four (24) hours
 - d. See *NCDENR- Erosion and Sediment Control Planning and Design Manual* for additional design criteria
10. **Skimmer Basins shall provide adequate silt storage for 1800 cubic feet per disturbed acre with surface area equal to .0075 times the peak inflow rate, Q25, using the 25-year peak rainfall data (NCDENR- Erosion and Sediment Control Planning and Design Manual). A Sediment Basin Designer Spreadsheet will be provided by the NCDOT Roadside Environmental Unit (REU) upon request.**
11. **The minimum and maximum length to width ratio of all Sediment Basins shall be 2:1 and 6:1, respectively.**

B. Final Grade Phase

1. Use correct NCDOT symbology
2. Protect existing and proposed drainage structure inlets with RIST-A, RIST-C, PIST-A, etc.
3. Utilize TRSC-B's to reduce velocity in existing and proposed ditches with spacing of 300 feet divided by percentage of ditch grade
4. Utilize temporary slope drains and earth berms at top of fill slopes 8 feet or higher and a fill slope grade of 3:1 or steeper, or where there are superelevations above 0.04 and fills are greater than 5 feet. Maximum slope drain spacing shall be 200 feet
5. Utilize rock energy dissipater and / or silt basin at outlet of slope drain
6. Devices at all drainage turnouts shall utilize **skimmers or** sediment control stone (TRSD-B, TRSC-A, etc.)
7. Provide adequate silt storage for **3600** cubic feet per disturbed acre and sediment basins shall be sized with surface area equal to 0.01 times the peak inflow rate, **Q25**, using **25**-year peak **rainfall** data (*NCDENR- Erosion and Sediment Control Planning and Design Manual*) A Sediment Basin Designer Spreadsheet will be provided by NCDOT REU upon request.
8. Provide matting for erosion control in all ditch lines where Shear Stress is greater than 0.15 psf, but less than or equal to 1.55 psf. For ditch lines with a Shear Stress above 1.55 psf, Permanent Soil Reinforcement Mat or Rip Rap shall be utilized
9. Design Riser Basins to the following standards:
 - a. Surface Area shall be determined by Equation $A(\text{sq. ft.}) = Q25(\text{cfs}) * 435.6$
 - b. Riser Pipe shall have a cross-sectional area 1.5 times that of the barrel pipe
 - c. Perforations in the riser pipe shall be reduced to increase dewatering time to twenty-four (24) hours
 - d. See *NCDENR- Erosion and Sediment Control Planning and Design Manual* for additional design criteria
10. **** NOTE ** Deleted Bullet No. 10**
11. Skimmer Basins shall provide adequate silt storage for 1800 cubic feet per disturbed acre with surface area equal to .0075 times the peak inflow rate, **Q25**, using the 25-year peak rainfall data (*NCDENR- Erosion and Sediment Control Planning and Design Manual*). A Sediment Basin Designer Spreadsheet will be provided by the NCDOT Roadside Environmental Unit (REU) upon request.
12. The minimum and maximum length to width ratio of all Sediment Basins shall be 2:1 and 6:1, respectively.

C. Intermediate Phase

Intermediate Erosion Control Plans shall only be required if design modifications and / or site conditions require additional erosion control design or the Design-Build Team proposes design revisions that impact the RFC Clearing and Grubbing and / or RFC Final Grade Erosion Control Plans. Intermediate Plans shall be submitted for review and shall be accepted prior to construction of any aspect impacted by the revised erosion control design. For any intermediate phase, comply with Section B, "Final Grade Phase" above.

II. Detail Sheets and Notes

- A. Provide construction entrance detail
- B. Provide project specific special details and notes
- C. Provide reforestation sheet(s): regular, wetland, streambank showing appropriate species

Maximum road closure duration of **30 minutes** shall be allowed on US 601 for the following operations:

- Traffic shifts, including tie-in work and placement of pavement markings.
- Tie-in work for -Y- Lines, unless an approved detour route is operational.

Liquidated Damages for Intermediate Contract Time #2 for the above road closure time restrictions on US 601, are \$500.00 per 15 minute period or any portion thereof.

3. Hauling Restrictions

The Design-Build Team shall adhere to the hauling restrictions noted in the *2002 NCDOT Standard Specifications for Roads and Structures*.

The Design-Build Team shall address how hauling will be conducted in the Technical Proposal.

The Design-Build Team shall not conduct any hauling operations against the flow of traffic of an open travelway unless the work area is protected by an approved temporary traffic barrier or guardrail.

B. Lane and Shoulder Closure Requirements

The Design-Build Team shall not install more than 2.0 miles of lane closures on any roadway within the project limits, measured from the beginning of the merge taper to the end of the lane closure.

Within the project limits, the Design-Build Team shall not install more than one lane closure, in any one direction, on any roadway. A lane closure may be installed in opposing directions (maximum of one in each direction) as long as a minimum distance of four miles is maintained between the lane closure limits.

The Design-Build Team shall remove lane closure devices from the lane when work is not being performed behind the lane closure or when a lane closure is no longer needed.

When personnel and / or equipment are working within 40 feet of an open travel lane, the Design-Build Team shall close the nearest open shoulder using *Revised Roadway Standard Drawing No. 1101D04*, unless the work area is protected by an approved temporary traffic barrier or guardrail. The aforementioned revised roadway standard drawing may be found on the NCDOT's Work Zone Traffic Control website.

<http://www.ncdot.org/doh/preconstruct/wztc/>

When personnel and / or equipment are working on the shoulder adjacent to an undivided facility and within 5 feet of an open travel lane, the Design-Build Team shall close the nearest open travel lane using *Roadway Standard Drawing No.*

Offset the approach end of the approved temporary traffic barrier system a minimum of 40 feet from oncoming traffic or protect at all times by a temporary crash cushion if the approved temporary traffic barrier system requires a temporary crash cushion.

Install approved temporary traffic barrier system with the traffic flow, beginning with the upstream side of traffic. Remove the approved temporary traffic barrier system against the traffic flow, beginning with the downstream side of traffic.

Install and space drums no greater than twice the posted speed limit (mph) to close or keep closed the section of the roadway until the approved temporary traffic barrier system can be placed or after the approved temporary barrier system is removed.

The Design-Build Team shall be responsible for providing a safe area (lateral offset behind barrier to work area) behind the approved temporary barrier system in accordance with the NCHRP-350 deflections from crash testing. If the safe area can not be maintained, an anchored barrier system shall be required.

G. Traffic Control Devices

The Design-Build Team shall adhere to the following requirements:

Use traffic control devices that conform to all NCDOT requirements and are listed on the Department's Approved Products List as shown on NCDOT's Work Zone Traffic Control website. Use of devices not shown on the Approved Product List shall require approval from the State Alternative Delivery Engineer.

All drums shall meet the requirements of the Drum Standard Detail found on the NCDOT's Work Zone Traffic Control website.

<http://www.ncdot.org/doh/preconstruct/wztc/>

Space channelizing devices in work areas no greater than twice the posted speed limit (mph), except 10 feet on-center in radii, and 3 feet off the edge of an open travelway, when lane closures are not in effect.

Place Type III barricades, with "ROAD CLOSED" Sign R11-2 attached, of sufficient length to close entire roadway. Stagger or overlap barricades to allow for ingress or egress.

Place sets of three drums perpendicular to the edge of the travelway on 500-foot centers when unopened lanes are closed to traffic. These drums shall be in addition to channelizing devices.

The Design-Build Team shall install and leave on the project the Traffic Control Devices that are in good condition necessary to accommodate the traffic pattern shown in accordance with the RFC - Traffic Control and Final Pavement Marking Plans, unless otherwise directed by the Engineer. The devices required to remain on the project at its completion shall become the property of the Department.

H. Pavement Markings, Markers and Delineation

The Design-Build Team shall adhere to the following:

Placement of final pavement markings and markers shall proceed only if the Final Pavement Marking Plans meet the requirements of the RFP, the “*Guidelines for Preparation of Traffic Control and Pavement Marking Plans for Design-Build Projects*”, and the “*Design-Build Submittal Guidelines*”.

The Design-Build Team shall use pavement marking and marker products that conform to all NCDOT’s requirements and specifications, as listed on the Department’s Approved Products List located on the NCDOT’s Work Zone Traffic Control website.

<http://www.ncdot.org/doh/preconstruct/wztc/>

The Design-Build Team shall install pavement markings and markers in accordance with NCDOT’s 2002 *Standard Specifications for Roads and Structures*, and in accordance with the manufacturer’s procedures and specifications.

The Final Pavement Marking Plans shall address any changes to markings outside the project limits as a result of the proposed construction of this project. The Design-Build Team shall be responsible for installing such markings and markers.

The Design-Build Team shall install pavement markings and pavement markers on the final surface as follows:

Road	Marking	Marker
Asphalt surfaces	Thermoplastic or Polyurea	Raised Permanent

All US routes require 50% wider markings, i.e., lane lines, edge lines and skips shall be 6”.

Refer to the Polyurea with Standard Bead Special Provision, which is available on the NCDOT’s Work Zone Traffic Control website.

The Design-Build Team shall install temporary pavement markings and temporary pavement markers on the interim surface or temporary pattern as follows:

Road	Marking	Marker
All Roads and Existing Structures.	Minimum of Paint	Temporary Raised
Proposed Structures	Temporary Tape	Temporary Raised

When using temporary tape pavement markings, place temporary raised markers half on and half off edgelines and centerlines to help secure the tape to the roadway. Markers shall be spaced the appropriate distance apart as described by RSD 1250.01, Sheet 1 of 3.

- **Arrangements for Protection or Adjustments to Existing Utilities**

- I. The Design-Build Team shall make the necessary arrangements with the utility owners for adjustments, relocations or removals where the Design-Build Team and Utility Company, with concurrence from the Department, determine that such work is essential for highway safety and performance of the required construction.

To minimize the potential for a permit modification for utility relocation / construction, the Design-Build Team shall conduct a meeting that includes NCDOT PDEA-NEU, NCDOT Utilities Coordination Unit, NCDOT Project Services Unit, NCDOT Alternative Delivery Unit and interested NCDOT personnel prior to coordinating with the utility companies and / or developing the Preliminary Utility Relocation Plans. All work resulting from this review to minimize associated potential environmental impacts shall be the Design-Build Team's responsibility. Failure on the part of the Design-Build Team to coordinate this meeting places all responsibility for associated delays solely in the hands of the Design-Build Team.

The Design-Build Team shall not commence work at points where the highway construction operations are adjacent to utility facilities, until making arrangements with the utility company to protect against damage that might result in expense, loss, disruption of service or other undue inconvenience to the public or utility owner. The Design-Build Team shall be responsible for damage to the existing or relocated utilities resulting from his operations. In the event of interruption of any utilities by the project construction, the Design-Build Team shall promptly notify the proper authority (Utility Company) and cooperate with the authority in the prompt restoration of service.

The Design-Build Team shall accommodate utility adjustments, reconstruction, new installation and routine maintenance work that may be underway or take place during the progress of the contract.

- II. In the event of a utility conflict, the Design-Build Team shall request that the utility company submit relocation plans (Highway Construction Plans to be provided by the Design-Build Team to Utility Owners) that show existing utilities and proposed utility relocations for approval by the NCDOT.

The Design-Build Team shall be required to submit (3) three copies of the Utility Relocation Plans to the NCDOT State Utility Agent, via the State Alternative Delivery Engineer, for review and approval prior to relocation work beginning. If the Design-Build Team determines the cost to be borne by NCDOT, then the Design-Build Team shall be required to submit three (3) copies of a detailed utility relocation estimate and copies of verification of compensable interest. The Design-Build Team shall also be responsible for submitting the appropriate agreements to be used with the Utility Relocation Plans (See Agreements under line items V and VI). After the review process is complete, the NCDOT Utility Unit will submit one (1) copy of the Utility Relocation Plans, executed agreements and any necessary comments back to the Design-Build Team. The NCDOT Utility Unit will also submit a copy of the approved Utility Relocation Plans to the Department's Resident Engineer. If the Utility Relocation Plans are accepted

RIGHT OF WAY SCOPE OF WORK (12-7-06)

The Design-Build Team, shall employ qualified, competent personnel who are currently **approved by the NCDOT Right of Way Branch**, herein after referred to as the Department, to provide all services necessary to perform all appraisal, appraisal review, negotiation and relocation services required for completion of the project in accordance with G.S. 136-28.1 of the General Statutes of North Carolina, as amended, and in accordance with the requirements set forth in the *Uniform Appraisal Standards and General Legal Principles for Highway Right of Way*, the *North Carolina Department of Transportation's Right of Way Manual*, the *North Carolina Department of Transportation's Rules and Regulations for the Use of Right of Way Consultants*, the *Code of Federal Regulations*, and *Chapter 133 of the General Statutes of North Carolina from Section 133-5 through 133-18*, hereby incorporated by reference, including the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. For a list of firms currently approved, contact Mr. Neal Strickland, in the NCDOT Right of Way Branch, at 919-733-7932, extension 317. The Design-Build Team shall perform the services as set forth herein and furnish and deliver to the Department reports accompanied by all documents necessary for the settlement of claims and the recordation of deeds, or necessary for condemnation proceedings covering said properties. The Design-Build Team, acting as an agent on behalf of the State of North Carolina shall provide right of way acquisition services for TIP Project R-2616 in Union County.

- ◆ **The Department has begun the right of way acquisition process. The Design-Build Team shall be responsible for all right of way and easement acquisitions that are not finalized upon award of the contract. For those parcels that the Department has completed the right of way acquisition process, the Design-Build Team shall be responsible for any additional right of way and easement acquisition required by revisions to the Department's proposed design and / or construction.**

The Design-Build Team shall acquire the required right of way and easements for the following parcels: 16, 18A, 21, 25, 36, 37, 40, 45, 61, 79, 81, 82, 89, 96, 97, 128, 129, 135, 137, 138, 139, 140, 141, 145, 146, 147, 150, 151, 152, 153, 154, 158, 159, 161, 162, 166, 168, 169, 170, 176, 177, 178, 182, 185, 188, 189 and 191.

The Design-Build Team shall adhere to the March 1, 2007 Delay of Entry commitment for the following parcels: 19, 23, 32, 35, 39, 46, 71, 73, 76, 78, 79, 95, 98, 99, 102, 113, 116, 117, 118, 119, 120, 121, 127, 131, 134, 136, 136A, 143, 148, 149, 155, 156, 157, 172, 173, 174, 175 and 179.

The Design-Build Team shall adhere to the April 7, 2007 Delay of Entry commitment for parcel 17.

- ◆ **The Design-Build Team shall be responsible for all Permanent Utility Easement (PUE) acquisitions required for the utility relocations / construction associated with the project's design and construction. Since the parcels requiring PUE's are dependent on the final Duke Power and Union Power Cooperative Relocation Plans, which cannot be completed prior to coordination with the successful Design-Build Team, the following lists of anticipated parcels requiring PUE's are subject to change. If required by the final Duke Power and / or Union Power Cooperative Relocation Plans, the Design-Build Team shall be responsible for acquiring PUE's from parcels not identified below.**

The following is a list of parcels anticipated to require Permanent Utility Easements for Duke Power facilities: 57, 66, 67, 68, 72, 76, 79, 83, 86, 87, 95, 97, 98, 101, 103, 104, 105, 106, 107, 109, 115, 126, 135, 137, 139, 140, 142, 145, 146, 148, 150, 151, 153, 155. 160, 167, 169 and 170.

Additional PUE acquisitions will be required for relocation of the Union Power Cooperative facilities. The following is a list of parcels anticipated to require Permanent Utility Easements for Union Power Cooperative facilities: 1-A, 2, 3, 4, 6, 7, 9, 12, 13, 15, 18, 18-A, 19, 21, 24, 25, 26-A, 27, 28, 31, 35, 36, 36-A, 38, 39, 43, 45, 47, 48, 49, 50, 51, and 183.

The Design-Build Team shall carry out the responsibilities as follows:

- ◆ With respect to the payments, costs and fees associated with the acquisition of right of way in this contract, the Department shall be responsible for only direct payments to property owners for negotiated settlements, recording fees, any relocation benefits, and deposits and fees involved in the filing of condemnation of any claims. The Department will assume responsibility for all costs associated with the litigation of condemned claims, including testimony by the appraiser(s). The Design-Build Team shall be responsible for all other acquisition related payments, costs and fees.
- ◆ A Department representative will be available to provide technical guidance on right of way acquisition procedures and to make timely decisions on approving relocation benefits and approving administrative adjustment settlements on behalf of the Department over and above the authority granted to the Department Right of Way Consultant Project Managers.
- ◆ The Design-Build Team shall submit a right of way project tracking report and right of way quality control plan to the Department. The Department standard forms and documents shall be used to the extent possible.
- ◆ The Design-Build Team shall provide a current title certificate for each parcel as of the date of closing or the date of filing of condemnation.
- ◆ The Design-Build Team shall prepare, execute and record documents conveying title to acquired properties to the Department with the Register of Deeds. The Design-Build Team shall deliver all executed and recorded deeds and easements to the Department. For all property purchased in conjunction with the project, title shall be acquired in fee simple or easement and shall be conveyed to “The North Carolina Department of Transportation”, free and clear of all liens and encumbrances except permitted encumbrances.
- ◆ It is understood and agreed by and between the parties hereto that all reports, surveys, studies, specifications, memoranda, estimates, etc., secured by and for the Design-Build Team shall become and remain the sole property of the Department upon termination or completion of the work, and the Department shall have the right to use same for any public purpose without compensation to the Design-Build Team.
- ◆ The Design-Build Team shall be responsible for all billboards located within the project limits, including those located within right of way acquired by the Department, in accordance with the Department's policies and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and all subsequent amendments (42 U.S.C. and NCGS GS 133-5 through 133-18).
- ◆ The Design-Build Team shall prepare appraisals in accordance with the Department’s *Uniform Appraisal Standards and General Legal Principles for Highway Right of Way*

***** STANDARD SPECIAL PROVISIONS *******PROMPT PAYMENT OF MONIES DUE SUBCONTRACTORS, SECOND TIER SUBCONTRACTORS AND MATERIAL SUPPLIERS AND RELEASE OF RETAINAGE**

The Design-Build Team, 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 Design-Build Team 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 Design-Build Team from the prequalified bidders list or the removal of other entities from the approved subcontractors list.

DB1 G73

BORROW AND WASTE SITE RECLAMATION PROCEDURES (12/6/05)

The Department's Borrow and Waste Site Reclamation Procedures for Contracted Projects have been revised and are available on the website at:

http://www.ncdot.org/doh/operations/dp_chief_eng/roadside/fieldops/downloads/Files/FinalOpsReclamation20Jan05.pdf

In accordance with Article 230-4 and Section 802 of the *Standard Specifications*, the Design-Build Team shall utilize these revised procedures for all borrow and waste sites on this project.

DB1 G120

PLANT AND PEST QUARANTINES (3-18-03)
(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 Design-Build Team'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

Table 1089-E Fluorescent Orange colorimetric requirements								
Color	1		2		3		4	
	x	y	x	y	x	y	x	Y
Fluorescent Orange	0.583	0.416	0.535	0.400	0.595	0.351	0.645	0.355

BARRICADES

Article 1089-3(A) General, delete both paragraphs and substitute the following:

Type III Barricades shall be constructed of perforated square steel tubing and/or angle iron. Provide Type III barricades that use a cross member or stabilization bar and meet the requirements of NCHRP 350 for Work Zone Category II Devices with composite and roll-up signs attached.

Use approved composite or plastic barricade rails that have a smooth face and have alternating orange and white retroreflective stripes that slope at an angle of 45 degrees.

Article 1089-3(C) Reflective Sheeting, delete the first paragraph only and substitute the following:

Use Type VII, VIII or IX (prismatic) retroreflective fluorescent orange sheeting on both sides of the barricade rails. The rail sheeting retroreflectivity values shall meet the retroreflectivity requirements in Table 1089-A, 1089-B or 1089-C and shall be listed on the Department’s approved product list or accepted as traffic qualified by the Traffic Control Unit.

DB10R30

DRUMS (7-16-02)

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.”

DB11 R05

PORTABLE CONCRETE BARRIER (12-6-05)

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.ncdot.org/doh/preconstruct/wztc/> 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

DB11 R10

Replace **Article 1110-3 (C, 2) Work Zone Signs (Portable)** with the following:

Install portable work zone signs to carry roll-up or approved composite at a minimum height of 1’ from the bottom of the sign to the ground on two lane-two way roadways.

Install portable work zone signs to carry roll-up or approved composite at a minimum height of 5’ from the bottom of the sign to the ground on multi-lane roadways.

DB11 R15

BARRICADES (12/6/05)

Revise the 2002 *Standard Specifications* as follows:

Page 11- 12, **Article 1145-2 Materials**, delete the contents and substitute the following:

(A) General

Refer to Division 10:

Barricades..... Article 1089-3

(B) Material Qualifications

Provide Type III barricades and barricade rails that are listed on the North Carolina Department of Transportation’s approved product list or accepted as traffic qualified by the Traffic Control Unit. For more information on the Traffic Qualification process, contact the Traffic Control Unit at Century Center Building B, 1020 Birch Ridge Drive, Raleigh, NC 27610; (919) 250-4159, or see the approved product list on the NCDOT web site at: <http://www.ncdot.org/doh/preconstruct/wztc/>

(C) Historical Performance:

Historical performance of Type III barricades and barricade rails will be used in determining future use of the material by the NCDOT, even if the Type III Barricade is traffic-qualified. Poor past or poor current performance of Type III Barricades 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.

DB11 R20

PAVEMENT MARKING GENERAL REQUIREMENTS (12-6-05)

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 919-250-4159 or <http://www.ncdot.org/doh/preconstruct/wztc/>”

DB12 R01

MINIMUM WAGES

FEDERAL: The Fair Labor Standards Act provides that with certain exceptions every employer must pay wages at the rate of not less than FIVE DOLLARS AND FIFTEEN CENTS (\$5.15) per hour.

STATE: The North Carolina Minimum Wage Act provides that every employer shall pay to each of his employees wages at a rate of not less than SIX DOLLARS AND FIFTEEN CENTS (\$6.15) per hour.

The minimum wage paid to all skilled labor employed on this contract shall be SIX DOLLARS AND FIFTEEN CENTS (\$6.15) per hour.

The minimum wage paid to all intermediate labor employed on this contract shall be SIX DOLLARS AND FIFTEEN CENTS (\$6.15) per hour.

The minimum wage paid to all unskilled labor on this contract shall be SIX DOLLARS AND FIFTEEN CENTS (\$6.15) per hour.

The determination of the intent of the application of these Acts to the project's contract shall be the Design-Build Team's responsibility.

The Design-Build Team shall have no claim against the Department of Transportation for any changes in the minimum wage laws, State or Federal. It is the responsibility of the Design-Build Team to be fully informed of all Federal and State Laws affecting the project's contract.