

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

C203160

CONTRACT AND
CONTRACT BONDS
FOR CONTRACT NO. C203160

WBS 49010.3.STR01T4A FRA-FR-HSR-0006-10-01-

T.I.P NO. C-4901A

COUNTY OF DAVIDSON
THIS IS THE RAIL CONTRACT
ROUTE NUMBER LENGTH 4.366 MILES
LOCATION NS/NCRR MAINLINE BOWERS TO LAKE RAILROAD ROADBED (MP 309.8
TO MP 314.0).

CONTRACTOR BLYTHE CONSTRUCTION, INC.
ADDRESS P.O. BOX 31635
CHARLOTTE, NC 28231

BIDS OPENED JUNE 18, 2013
CONTRACT EXECUTION JUL 23 2013

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

PROPOSAL

DATE AND TIME OF BID OPENING **JUNE 18, 2013 AT 2:00 PM**

CONTRACT ID C203160

WBS 49010.3.STR01T4A

FEDERAL-AID NO. FRA-FR-HSR-0006-10-01

COUNTY DAVIDSON

T.I.P. NO. C-4901A

MILES 4.366

ROUTE NO.

LOCATION NS/NCRR MAINLINE BOWERS TO LAKE RAILROAD ROADBED (MP 309.8 TO MP 314.0).

TYPE OF WORK GRADING, DRAINAGE, AND STRUCTURES.

NOTICE:

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

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS A RAIL PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

**PROPOSAL FOR THE CONSTRUCTION OF
CONTRACT No. C203160 IN DAVIDSON COUNTY, NORTH CAROLINA**

Date _____ 20____

**DEPARTMENT OF TRANSPORTATION,
RALEIGH, NORTH CAROLINA**

The Bidder has carefully examined the location of the proposed work to be known as Contract No. **C203160**; has carefully examined the plans and specifications, which are acknowledged to be part of the proposal, the special provisions, the proposal, the form of contract, and the forms of contract payment bond and contract performance bond; and thoroughly understands the stipulations, requirements and provisions. The undersigned bidder agrees to bound upon his execution of the bid and subsequent award to him by the Board of Transportation in accordance with this proposal to provide the necessary contract payment bond and contract performance bond within fourteen days after the written notice of award is received by him. The undersigned Bidder further agrees to provide all necessary machinery, tools, labor, and other means of construction; and to do all the work and to furnish all materials, except as otherwise noted, necessary to perform and complete the said contract in accordance with *the 2012 Standard Specifications for Roads and Structures* by the dates(s) specified in the Project Special Provisions and in accordance with the requirements of the Engineer, and at the unit or lump sum prices, as the case may be, for the various items given on the sheets contained herein.

The Bidder shall provide and furnish all the materials, machinery, implements, appliances and tools, and perform the work and required labor to construct and complete State Highway Contract No. **C203160** in **Davidson County**, for the unit or lump sum prices, as the case may be, bid by the Bidder in his bid and according to the proposal, plans, and specifications prepared by said Department, which proposal, plans, and specifications show the details covering this project, and hereby become a part of this contract.

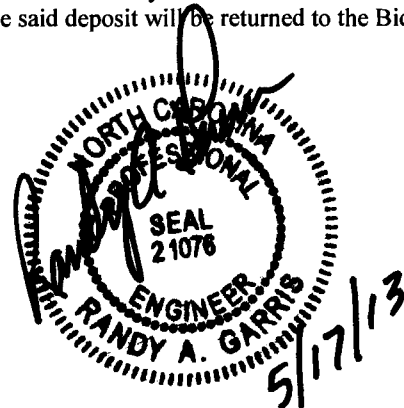
The published volume entitled *North Carolina Department of Transportation, Raleigh, Standard Specifications for Roads and Structures, January 2012* with all amendments and supplements thereto, is by reference incorporated into and made a part of this contract; that, except as herein modified, all the construction and work included in this contract is to be done in accordance with the specifications contained in said volume, and amendments and supplements thereto, under the direction of the Engineer.

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

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

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

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



State Contract Officer

TABLE OF CONTENTS**COVER SHEET
PROPOSAL SHEET****PROJECT SPECIAL PROVISIONS**

CONTRACT TIME AND LIQUIDATED DAMAGES:	1
INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES:.....	1
INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES	2
INTERMEDIATE CONTRACT TIME NUMBER 3 AND LIQUIDATED DAMAGES.....	2
INTERMEDIATE CONTRACT TIME NUMBER 4 AND LIQUIDATED DAMAGES	3
RAILROAD COORDINATION:	3
PERMANENT VEGETATION ESTABLISHMENT:	4
MANDATORY PRE-BID CONFERENCE (Prequalifying To Bid):	4
PROGRESS SCHEDULE (RAIL):.....	5
MAJOR CONTRACT ITEMS:.....	6
SPECIALTY ITEMS:	6
FUEL PRICE ADJUSTMENT:	6
SCHEDULE OF ESTIMATED COMPLETION PROGRESS:	7
DISADVANTAGED BUSINESS ENTERPRISE FOR RAILROAD PIEDMONT IMPROVEMENT PLAN (PIP):.....	7
ARRA AND OERI CONTRACT PROVISIONS AND REPORTING REQUIREMENT CERTIFICATION:.....	15
SPECIAL NOTICE TO BIDDERS:	22
PREQUALIFICATION OF RAIL ROAD GRADING CONTRACTORS (PIP):	22
PROTECTION OF RAILROAD INTEREST:	23
CERTIFICATION FOR FEDERAL-AID CONTRACTS:.....	43
U.S. DEPARTMENT OF TRANSPORTATION HOTLINE:.....	43
SUBSURFACE INFORMATION:.....	44
LOCATING EXISTING UNDERGROUND UTILITIES:	44
RESOURCE CONSERVATION:.....	44
DOMESTIC STEEL:	44
MAINTENANCE OF THE PROJECT:.....	45
TWELVE MONTH GUARANTEE:	45
GIFTS FROM VENDORS AND CONTRACTORS:	46
EROSION AND SEDIMENT CONTROL/STORMWATER CERTIFICATION:	46
PROCEDURE FOR MONITORING BORROW PIT DISCHARGE:	52
SUPPLEMENTAL CONTRACTOR EROSION CONTROL RESPONSIBILITIES:	53
SUPPLEMENTAL RESPONSE FOR EROSION CONTROL:.....	54
EMPLOYMENT:.....	54
STATE HIGHWAY ADMINISTRATOR TITLE CHANGE:	54
FIELD OFFICE (Lump Sum):	55
COOPERATION BETWEEN CONTRACTORS:	57
NOTES TO CONTRACTOR:	57A
ROADWAY	58
UTILITY CONSTRUCTION	70

Revised 6-11-13
Davidson County

C203160 (C-4901A)

EROSION CONTROL.....	72
RAILROAD SPECIAL PROVISIONS FOR ROADBED	101
PROJECT SPECIAL PROVISIONS STRUCTURE / CULVERTS	117

<u>PERMITS</u>	R-1
-----------------------------	-----

STANDARD SPECIAL PROVISIONS

AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS.....	1
NCDOT GENERAL SEED SPECIFICATION FOR SEED QUALITY	2
ERRATA.....	5
PLANT AND PEST QUARANTINES	7
AWARD OF CONTRACT	8
MINORITY AND FEMALE EMPLOYMENT REQUIREMENTS	9
REQUIRED CONTRACT PROVISIONS FEDERAL - AID CONSTRUCTION	
CONTRACTS	12
ON-THE-JOB TRAINING	21
MINIMUM WAGES.....	24

PROPOSAL ITEM SHEET AND SIGNATURE SHEET

ITEM SHEET(S) (TAN SHEETS)
SIGNATURE SHEET (BID ACCEPTANCE BY DEPARTMENT)

PROJECT SPECIAL PROVISIONS**GENERAL****CONTRACT TIME AND LIQUIDATED DAMAGES:**

(8-15-00) (Rev. 12-18-07)

108

SP1 G07 A

The date of availability for this contract is **July 29, 2013**, except that work in jurisdictional waters and wetlands shall not begin until a meeting between the DOT, Regulatory Agencies, and the Contractor is held as stipulated in the permits contained elsewhere in this proposal. This delay in availability has been considered in determining the contract time for this project.

The completion date for this contract is **October 28, 2016**.

Except where otherwise provided by the contract, observation periods required by the contract will not be a part of the work to be completed by the completion date and/or intermediate contract times stated in the contract. The acceptable completion of the observation periods that extend beyond the final completion date shall be a part of the work covered by the performance and payment bonds.

The liquidated damages for this contract are **Two Hundred Dollars (\$200.00)** per calendar day. These liquidated damages will not be cumulative with any liquidated damages which may become chargeable under Intermediate Contract Time Number 1.

INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES:

(7-1-95) (Rev. 2-21-12)

108

SP1 G13 A

Except for that work required under the Project Special Provisions entitled *Planting, Reforestation* and/or *Permanent Vegetation Establishment*, included elsewhere in this proposal, the Contractor will be required to complete all work included in this contract and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is **July 29, 2013**.

The completion date for this intermediate contract time is **May 1, 2016**.

The liquidated damages for this intermediate contract time are **One Thousand Five Hundred Dollars (\$1,500.00)** per calendar day.

Upon apparent completion of all the work required to be completed by this intermediate date, a final inspection will be held in accordance with Article 105-17 and upon acceptance, the Department will assume responsibility for the maintenance of all work except *Planting, Reforestation* and/or *Permanent Vegetation Establishment*. The Contractor will be responsible for and shall make corrections of all damages to the completed roadway caused by his planting operations, whether occurring prior to or after placing traffic through the project.

INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES

The Contractor shall complete all required work shown in the “NCRR/NS Mainline Railroad Roadbed” plans, that is not in conflict with the existing track, including installation and maintenance of erosion control, seeding and mulching, clearing & grubbing, undercutting, installation of ditches and pipe necessary for positive drainage, grading and compaction of rail bed and access roads, bridge construction for track -M1- at Rich Fork Creek and Abbotts Creek, and placement and compaction of sub ballast in accordance with plans and details. The station limits for this intermediate contract time are 7687+00 –M1- to 7797+00 –M1-.

These station limits correspond to but are not limited to the roadbed required for track construction required in **Phase 1, Steps 6-8** as shown on Sheet CP-02.

The date of availability for this intermediate contract time is the date the Contractor elects to begin this work.

The completion date for this intermediate contract time is **August 4, 2014**.

The liquidated damages are **Three Thousand Dollars (\$3,000.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 3 AND LIQUIDATED DAMAGES

The Contractor shall complete all required work shown in the “NCRR/NS Mainline Railroad Roadbed” plans, that is not in conflict with the existing track, including installation and maintenance of erosion control, seeding and mulching, clearing & grubbing, undercutting, installation of ditches and pipe necessary for positive drainage, grading and compaction of rail bed and access roads, construction of bridge over Hamby Creek Tributary, and placement and compaction of sub ballast in accordance with plans and details. The station limits for this intermediate contract time are 7571+00 –M1- to 7686+40 –M1-.

These station limits correspond to but are not limited to the roadbed required for track construction required in **Phase 1, Steps 11-15 and Phase 2** as shown on Sheets CP-02 and CP-03.

The date of availability for this intermediate contract time is the date the Contractor elects to begin this work.

The completion date for this intermediate contract time is **October 20, 2014**.

The liquidated damages are **Three Thousand Dollars (\$3,000.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 4 AND LIQUIDATED DAMAGES

The Contractor shall complete all work shown in the "NCRR/NS Mainline Railroad Roadbed" plans, that is not in conflict with the existing track, including installation and maintenance of erosion control, seeding and mulching, clearing & grubbing, undercutting, installation of ditches and pipe necessary for positive drainage, grading and compaction of rail bed, access roads, material laydown area and signal cabinet pads, bridge construction for track –M2- at Rich Fork Creek and Abbotts Creek, and placement and compaction of sub ballast in accordance with plans and details.

The station limits for this intermediate contract time are 7732+33 –M2- to 7772+00 –M2-.

These station limits correspond to but are not limited to the roadbed required for track construction required in **Phase 3, Steps 7 and 8** as shown on Sheet **CP-04**.

The date of availability for this intermediate contract time is the date the Contractor elects to begin this work.

The completion date for this intermediate contract time is **September 7, 2015**.

The liquidated damages are **Three Thousand Dollars (\$3,000.00)** per calendar day.

RAILROAD COORDINATION:

The Contractor's attention is directed to the "NCRR/NS Mainline Railroad Roadbed" plans and the Intermediate Contract Times (ICT) Special Provisions. Norfolk Southern Railroad Company (NSR) requires an initial advance notice four (4) weeks before the Contractor anticipates any work is required by NSR.

An advance notice is required by NSR twelve (12) weeks ahead of the Contractor's anticipated completion of ICT #2, which includes the railroad roadbed grading and bridge reconstruction for NSR to complete construction of –M1- tracks from Sta. 7687+00 to 7796+60 and shift train operations onto the proposed tracks. From the completion of ICT #2, it is anticipated NSR will require a minimum of fourteen (14) weeks and a maximum of twenty (20) weeks to move train operations to the new tracks. Duration of this work is dependent on how much roadbed has been completed, accepted and provided to NSR for track construction prior to the completion of ICT #2.

An advance notice is required by NSR four (4) weeks ahead of the Contractor's anticipated completion of ICT #3, which includes the railroad roadbed grading for NSR to complete construction of –M2- track from Sta. 7654+00 to 7684+71 and shift train operations onto the proposed new –M2- tracks and the completion of –M1- tracks from Sta. 7579+00 to 7691+56. From the completion of ICT #3, it is anticipated NSR will require a minimum of thirty two (32) weeks and a maximum of forty (40) weeks to move train operations to the new tracks and remove existing –M2- tracks from Sta. 7654+00 to 7665+00. NSR will give an advance notice no less than fourteen (14) calendar days ahead of the anticipated final date of removal of track and accessories. Duration of this work is dependent on how much roadbed has been completed, accepted and provided to NSR for track construction prior to the completion of ICT #3.

An advance notice is required by NSR four (4) weeks ahead of the Contractor's anticipated completion of ICT #4, which includes the railroad roadbed grading and bridge reconstruction for NSR to complete construction of –M2- tracks from Sta. 7732+33 to 7785+30 and shift train operations onto the proposed new –M2- tracks. From the completion of ICT #4, it is anticipated NSR will require a minimum of twenty (20) weeks and a maximum of twenty six (26) weeks to complete track construction. Duration of this work is dependent of how much roadbed has been completed, accepted and provided to NSR for track construction prior to the completion of ICT #4.

All notices to the railroad shall be given to the Engineer.

PERMANENT VEGETATION ESTABLISHMENT:

(2-16-12)

104

SPI G16

Establish a permanent stand of the vegetation mixture shown in the contract. During the period between initial vegetation planting and final project acceptance, perform all work necessary to establish 80% coverage of permanent vegetation within the project limits, as well as, in borrow and waste pits. This work shall include erosion control device maintenance and installation, repair seeding and mulching, supplemental seeding and mulching, mowing, and fertilizer topdressing, as directed. All work shall be performed in accordance with the applicable section of the *2012 Standard Specifications*.

Once the Engineer has determined that 80% coverage of permanent vegetation has been established, the Contractor will be notified to remove the remaining erosion control devices that are no longer needed. The Contractor will be responsible for, and shall correct any areas disturbed by operations performed in permanent vegetation establishment and the removal of temporary erosion control measures, whether occurring prior to or after placing traffic on the project.

Payment for *Response for Erosion Control, Seeding and Mulching, Repair Seeding, Supplemental Seeding, Mowing, Fertilizer Topdressing, Silt Excavation, and Stone for Erosion Control* will be made at contract unit prices for the affected items. Work required that is not represented by contract line items will be paid in accordance with Articles 104-7 or 104-3 of the *2012 Standard Specifications*. No additional compensation will be made for maintenance and removal of temporary erosion control items.

MANDATORY PRE-BID CONFERENCE (Prequalifying To Bid):

(7-18-06) (Rev. 3-25-13)

SPI I-14

In order for all prospective bidders to have an extensive knowledge of the project, all prospective bidders shall attend a mandatory pre-bid conference on **Friday, May 31, 2013 at 9:00 a.m. at:**

**NCDOT Division 9 Office Conference Room
375 Silas Creek Parkway
Winston-Salem, NC 27127
(336) 747-7800**

The pre-bid conference will include a thorough discussion of the plans, contract pay items, special provisions, etc.

Only bidders who have attended and properly registered at the above scheduled pre-bid conference and who have met all other prequalification requirements will be considered prequalified to bid on this project. A bid received from a bidder who has not attended and properly registered at the above scheduled pre-bid conference will not be accepted and considered for award.

Attendance at the pre-bid conference will not meet the requirements of proper registration unless the individual attending has registered at the pre-bid conference in accordance with the following:

- (A) The individual has signed his name on the official roster no later than thirty (30) minutes after the above noted time for the beginning of the conference.
- (B) The individual has written in the name and address of the company he or she represents.
- (C) Only one company has been shown as being represented by the individual attending.
- (D) The individual attending is an officer or permanent employee of the company they are representing.

Attendance at any prior pre-bid conference will not meet the requirement of this provision.

PROGRESS SCHEDULE (RAIL):

(2-19-13)

SPI G25

The Contractor shall prepare and submit for review and approval a Progress Schedule as set forth in Section 108 of the *Standard Specification*, the Railroad Coordination Special Provision, and as amended herein.

The schedule shall include activity descriptions with beginning and ending dates, partial completion (in percentage or time format). Railroad roadbed activities should include beginning and ending stations of roadbed section. The schedule shall include activities or milestones indicating when NSR flagmen and construction forces should be mobilized to the site.

In addition to those requirements listed above and in Section 108 of the *Standard Specifications*, the Contractor shall include the following activities or milestones in the schedules, where applicable:

- (A) Beginning and ending dates for each phase or section of railroad roadbed work.
- (B) Expected beginning and ending dates for each phase of track work required to be performed by NSR, based on the durations indicated in the Railroad Coordination Special Provision or as coordinated with the Engineer and Railroad Engineer.
- (C) Dates when flagging for railroad protection is required and expected type of flagging required, as coordinated with the Engineer and Railroad Engineer.
- (D) Dates (and durations, if temporary) for closures of at-grade crossings.
- (E) Completion dates for highway projects and railroad roadbed projects if separate completion dates are anticipated/required.

C203160 (C-4901A)

6

Davidson County

(F) Anticipated dates for removal of erosion control devices.

The Contractor shall continue to submit to the Engineer a schedule on a monthly basis until the work is substantially complete. If no changes are required to the schedule dates, the Contractor shall resubmit the previous month's schedule with a revised submittal date and updated percent partial completion.

MAJOR CONTRACT ITEMS:

(2-19-02)

104

SP1 G28

The following listed items are the major contract items for this contract (see Article 104-5 of the *2012 Standard Specifications*):

Line #	Description
53	Sub-Ballast

SPECIALTY ITEMS:

(7-1-95)(Rev. 1-17-12)

108-6

SP1 G37

Items listed below will be the specialty items for this contract (see Article 108-6 of the *2012 Standard Specifications*).

Line #	Description
44 thru 47	Guardrail
61 thru 74	Utility Construction
75 thru 104, 107	Erosion Control
105 thru 106	Reforestation
114 thru 118	Drilled Piers

FUEL PRICE ADJUSTMENT:

(11-15-05) (Rev. 1-17-12)

109-8

SP1 G43(REV.)

Revise the *2012 Standard Specifications* as follows:

Page 1-83, Article 109-8, Fuel Price Adjustments, add the following:

The base index price for DIESEL #2 FUEL is \$ **2.9306** per gallon. Where any of the following are included as pay items in the contract, they will be eligible for fuel price adjustment.

The pay items and the fuel factor used in calculating adjustments to be made will be as follows:

Description	Units	Fuel Usage Factor Diesel
Unclassified Excavation	Gal/CY	0.29
Borrow Excavation	Gal/CY	0.29
Class IV Subgrade Stabilization	Gal/Ton	0.55
Aggregate Base Course	Gal/Ton	0.55
Sub-Ballast	Gal/Ton	0.55
Asphalt Concrete Base Course, Type _____	Gal/Ton	2.90
Asphalt Concrete Intermediate Course, Type _____	Gal/Ton	2.90
Asphalt Concrete Surface Course, Type _____	Gal/Ton	2.90

C203160 (C-4901A)

7

Davidson County

Open-Graded Asphalt Friction Course	Gal/Ton	2.90
Sand Asphalt Surface Course, Type _____	Gal/Ton	2.90
Aggregate for Cement Treated Base Course	Gal/Ton	0.55
Portland Cement for Cement Treated Base Course	Gal/Ton	0.55
____ " Portland Cement Concrete Pavement	Gal/SY	0.245
Concrete Shoulders Adjacent to ____ " Pavement	Gal/SY	0.245

SCHEDULE OF ESTIMATED COMPLETION PROGRESS:

(7-15-08) (Rev. 5-21-13)

108-2

SP1 G58

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

	<u>Fiscal Year</u>	<u>Progress (% of Dollar Value)</u>
2014	(7/01/13 - 6/30/14)	45% of Total Amount Bid
2015	(7/01/14 - 6/30/15)	36% of Total Amount Bid
2016	(7/01/15- 6/30/16)	19% of Total Amount Bid

The Contractor shall also furnish his own progress schedule in accordance with Article 108-2 of the *2012 Standard Specifications*. Any acceleration of the progress as shown by the Contractor's progress schedule over the progress as shown above shall be subject to the approval of the Engineer.

DISADVANTAGED BUSINESS ENTERPRISE FOR RAILROAD PIEDMONT IMPROVEMENT PLAN (PIP):

(12-18-12) (Rev. 5-21-13)

102-15(J)

SP1 G64

Description

The purpose of this Special Provision is to promote the solicitation and use of disadvantaged minority and woman-owned businesses in the rail PIP projects let by the Department of Transportation.

Definitions

Aspirational Goal - The portion of the total contract, expressed as a percentage, that is foreseeable to be performed by DBE subcontractors.

Disadvantaged Business Enterprise (DBE) - A firm certified as a Disadvantaged Business Enterprise through the North Carolina Unified Certification Program.

Pledged DBE Subcontractor - Any DBE submitted at the time of bid that is being used to meet the DBE aspirational goal.

Pledged DBE Goal - The DBE participation at time of award, as determined by the amount of pledged DBE participation submitted.

Confirmation Letter - Written documentation from the Department to the bidder confirming the Contractor's approved, pledged DBE participation along with the listing of the DBE firms.

Manufacturer - A firm that operates or maintains a factory or establishment that produces on the premises, the materials or supplies obtained by the Contractor.

Regular Dealer - A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are brought, kept in stock, and regularly sold to the public in the usual course of business. A regular dealer engages in, as its principal business and in its own name, the purchase and sale or lease of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone, and petroleum products need not keep such products in stock, if it owns and operates distribution equipment for the products. Brokers and packagers are not regarded as manufacturers or regular dealers within the meaning of this section.

North Carolina Unified Certification Program (NCUCP) - A program that provides comprehensive services and information to applicants for DBE certification, such that an applicant is required to apply only once for a DBE certification that will be honored by all recipients of USDOT funds in the state.

Forms and Websites Referenced in this Provision

Affidavit A - Listing of Good Faith Efforts - Form signed by bidder listing good faith efforts performed. This form is required if the lowest responsive and responsible bidder fails to meet or exceed the aspirational goal.

http://files.www.piedmontrail.biz/primary-navigation/prequalification-requirements/PIP_DBE_provision.pdf

DBE Payment Tracking System - On-line system in which the Contractor enters the payments made to DBE subcontractors who have performed work on the project.
<https://apps.dot.state.nc.us/Vendor/PaymentTracking/>

DBE-IS Subcontractor Payment Information - Form for reporting the payments made to all DBE firms working on the project. This form is for paper bid projects only.
<http://www.ncdot.org/doh/forms/files/DBE-IS.xls>

RF-1 DBE Replacement Request Form - Form for replacing a committed DBE.
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/DBE%20MBE%20WBE%20Replacement%20Request%20Form.pdf>

SAF Subcontract Approval Form - Form required for approval to sublet the contract.
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/Subcontract%20Approval%20Form%20Rev.%202012.zip>

JC-1 Joint Check Notification Form - Form and procedures for joint check notification. The form acts as a written joint check agreement among the parties providing full and prompt disclosure of the expected use of joint checks.
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/Joint%20Check%20Notification%20Form.pdf>

Letter of Intent - Form signed by the Contractor and the DBE subcontractor, manufacturer or regular dealer that affirms that a portion of said contract is going to be performed by the signed DBE for the amount listed at the time of bid.
<http://connect.ncdot.gov/letting/LetCentral/Letter%20of%20Intent%20to%20Perform%20as%20a%20Subcontractor.pdf>

Listing of DBE Subcontractors Form - Form for entering DBE subcontractors on a project that will meet this DBE goal. This form is for paper bids only.
[http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/08%20DBE%20Subcontractors%20\(Federal\).doc](http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/08%20DBE%20Subcontractors%20(Federal).doc)

Aspirational DBE Goal

In line with the federal aspirational goal, the following DBE aspirational goal for participation by Disadvantaged Business Enterprises is established for this contract:

Disadvantaged Business Enterprises **10.0 %**

Even though the goal is aspirational, the expectation is that the Contractor shall exercise all reasonable steps to achieve the goal. Such steps include, but are not limited to:

- (A) Clearly defining and disseminating information to DBEs on portions of the work that is available on the project so DBEs are provided an equitable opportunity to participate on the PIP contracts let by the Department.
- (B) Solicit through reasonable and available means to try and achieve the aspirational goal.
- (C) Providing adequate information and arranging a location for the review of plans, specifications and requirements of the contract.
- (D) Providing assistance to DBEs in overcoming barriers such as the inability to obtain bonding, lines of credit, insurance, materials, equipment or related assistance or services.

Directory of Transportation Firms (Directory)

Real-time information is available about firms doing business with the Department and firms that are DBE certified through the NC UCP in the NCDOT Directory of Transportation Firms. Only firms identified in the Directory as DBE certified shall be used to meet the aspirational DBE goal of the project. The Directory can be found at the following link:

<https://partner.ncdot.gov/VendorDirectory/default.html>

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

Listing of DBE Subcontractors

At the time of bid, bidders shall submit all the DBE participation that they anticipate to use during the life of the contract. Since the Rail DBE program is race and gender-neutral, all participation up to and over the 10% aspirational goal will be used toward the Department's race and gender-neutral goal for rail projects. Only those firms with current DBE certification at the time of bid opening will be acceptable for listing in the bidder's submittal of DBE participation. The bidder shall indicate the following required information:

(A) Electronic Bids

Bidders shall submit a listing of DBE participation in the appropriate section of Expedite, the bidding software of Bid Express®.

- (1) Submit the names and addresses of DBE firms identified to participate in the contract. If the bidder uses the updated listing of DBE firms shown in Expedite, the bidder may use the dropdown menu to access the name and address of the DBE firm.
- (2) Submit the contract line numbers of work to be performed by each DBE firm. When no figures or firms are entered, the bidder will be considered to have no DBE participation.
- (3) The bidder shall be responsible for ensuring that the DBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that DBE's participation will not count towards achieving the aspirational DBE goal.

(B) Paper Bids

- (1) Bidders, at the time the bid proposal is submitted, shall submit a listing of DBE participation, including the names and addresses on the Listing of DBE Subcontractors form.

- (2) The bidder shall be responsible for ensuring that the DBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that DBE's participation will not count towards achieving the aspirational DBE goal.

DBE Prime Contractor

When a certified DBE firm bids on a rail PIP contract that contains an aspirational DBE goal, the DBE firm by virtue of the work it performs on the contract with its own forces, will meet the DBE aspirational goal. The DBE bidder shall list itself along with any other DBE subcontractors on the Listing of DBE Subcontractor form and the amount of work by each.

Written Documentation – Letter of Intent

The bidder shall submit written documentation for each DBE that will be used on the project to meet the aspirational goal of the contract, indicating the bidder's intent to use the DBE in the contract. This documentation shall be submitted on the Department's form titled *Letter of Intent*. The purpose of this documentation is to make the DBE aware that their quote is being used on the project. The documentation is not intended to take the place of a formal contract between the Contractor and the DBE subcontractor.

A hard or electronic copy of the Letter(s) of Intent shall be received in the office of the State Contractor Utilization Engineer or at DBE@ncdot.gov no later than 12:00 noon of the sixth calendar day following opening of bids, unless the sixth day falls on an official state holiday. In that situation, it is due in the office of the State Contractor Utilization Engineer no later than 12:00 noon on the next official state business day.

Submission of Good Faith Effort

While the lowest responsible and responsive bidder will not be denied award of the contract based on failing to meet the advertised aspirational goal, the Department expects that the bidder will put forth a good faith effort to meet it. If the bidder fails to meet or exceed the aspirational DBE goal, the apparent lowest responsive bidder shall submit Affidavit A - Listing of Good Faith Efforts. A hard or electronic copy of the Affidavit shall be received in the office of the State Contractor Utilization Engineer or at DBE@ncdot.gov no later than 12:00 noon of the sixth calendar day following opening of bids, unless the sixth day falls on an official state holiday. In that situation, it is due in the office of the State Contractor Utilization Engineer no later than 12:00 noon on the next official state business day.

Counting DBE Participation Toward Meeting the DBE Aspirational Goal

(A) Participation

The total dollar value of the participation by a submitted DBE will be counted toward the aspirational goal of the contract. The total dollar value of the participation by a DBE will be based upon the value of work actually performed by the DBE and the actual payments to the DBE firms by the Contractor.

(B) Joint Checks

Prior notification of joint check use shall be required when counting DBE participation for services or purchases that involves the use of a joint check. Notification shall be through submission of the Form JC-1 (*Joint Check Notification Form*) and the use of joint checks shall be in accordance with the Department's Joint Check Procedures.

(C) Subcontracts (Non-Trucking)

A DBE may enter into subcontracts. Work that a DBE subcontracts to another DBE firm may be counted toward the aspirational goal. Work that a DBE subcontracts to a non-DBE firm does not count toward the aspirational goal of the contract.

(D) Joint Venture

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

(E) Suppliers

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

(F) Other

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

- (1) The fees or commissions charged by a DBE firm for providing a *bona fide* service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, provided the fees or commissions are determined to be reasonable and not excessive as compared with fees and commissions customarily allowed for similar services.
- (2) With respect to materials or supplies purchased from a DBE, which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site (but not the cost of the materials and supplies themselves), provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar services.

Commercially Useful Function

Even though the goal on the rail PIP project is aspirational, there is still a requirement that the DBEs performing on the project will perform a commercially useful function in the work of a contract. The Contractor may only count/report towards the aspirational goal only expenditures to DBEs that perform a commercially useful function.

(A) A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE shall also be responsible with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, the Department will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and any other relevant factors.

(B) DBE Utilization in Trucking

The following factors will be used to determine if a DBE trucking firm is performing a commercially useful function:

- (1) The DBE shall be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there shall not be a contrived arrangement for the purpose of meeting the aspirational DBE goal.
- (2) The DBE shall itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
- (3) The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.
- (4) The DBE may subcontract the work to another DBE firm, including an owner-operator who is certified as a DBE. The DBE who subcontracts work to another DBE receives credit for the total value of the transportation services the subcontracted DBE provides on the contract.
- (5) The DBE may also subcontract the work to a non-DBE firm, including from an owner-operator. The DBE who subcontracts the work to a non-DBE is entitled to credit for the total value of transportation services provided by the non-DBE subcontractor not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE subcontractors receives credit only for the fee or commission it receives as a result of the subcontract arrangement. The value of services performed under

subcontract agreements between the DBE and the Contractor will not count towards the DBE credit for the project.

- (6) A DBE may lease truck(s) from an established equipment leasing business open to the general public. The lease must indicate that the DBE has exclusive use of and control over the truck. This requirement does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. This type of lease may count toward the DBE's credit as long as the driver is under the DBE's payroll.
- (7) Subcontracted/leased trucks shall display clearly on the dashboard the name of the DBE that they are subcontracted/leased to and their own company name if it is not identified on the truck itself. Magnetic door signs are not permitted.

Changes in the Work and Replacement of Pledged DBEs

Throughout the contract there may be changes made by the Engineer or Contractor that result in the reduction or elimination of work that was proposed to be performed by a DBE. Since the goals are aspirational, the Contractor will not be required to seek additional participation elsewhere on the project, but there is an expectation that there will be a continued effort to get DBEs on the job.

If the Engineer or Contractor makes changes that result in additional work to be performed by a DBE based on the Contractor's pledged DBE submittal, the Department has an expectation that the DBE shall participated in the additional work to the same extent as the DBE participated in the original work unless there is a viable reason.

If a DBE cannot perform the work for any reason, there is not a requirement to replace the DBE with another, but there is an expectation by the Department that the Contractor will continue to seek additional DBE participation opportunities on the project. The Department also requires the use of the *DBE Replacement Request Form* (RF-1) for tracking purposes.

Reporting Disadvantaged Business Enterprise Participation

The Contractor shall provide the Engineer with an accounting of payments made to all DBE firms, including material suppliers and contractors at all levels (prime, subcontractor, or second tier subcontractor). This accounting shall be furnished to the Engineer for any given month by the end of the following month. Failure to submit this information accordingly may result in the following action:

- (A) Withholding of money due in the next partial pay estimate; or
- (B) Removal of an approved contractor from the prequalified bidders' list or the removal of other entities from the approved subcontractors list.

While each contractor (prime, subcontractor, 2nd tier subcontractor) is responsible for accurate accounting of payments to DBEs, it shall be the prime contractor's responsibility to report all monthly and final payment information in the correct reporting manner.

Failure on the part of the Contractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from further bidding until the required information is submitted.

Failure on the part of any subcontractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from being approved for work on future DOT projects until the required information is submitted.

Contractors reporting transportation services provided by non-DBE lessees shall evaluate the value of services provided during the month of the reporting period only.

At any time, the Engineer can request written verification of subcontractor payments.

(A) Electronic Bids Reporting

The Contractor shall report the accounting of payments through the Department's DBE Payment Tracking System.

(B) Paper Bids Reporting

The Contractor shall report the accounting of payments on the Department's DBE-IS (*Subcontractor Payment Information*) with each invoice. Invoices will not be processed for payment until the DBE-IS is received.

ARRA AND OERI CONTRACT PROVISIONS AND REPORTING REQUIREMENT

CERTIFICATION:

(11-20-12) (Rev. 5-21-13)

SP1 G70

By submission of a proposal or bid, the Contractor agrees to comply with the following provisions. Failure to comply with any or all of the provisions herein may be cause for the contracting agency to issue a cancellation notice to a Contractor.

The Contractor is hereby notified that this project will be financed with American Recovery and Reinvestment Act of 2009 (ARRA) Funds. The Contractor shall assure that all subcontractors and other contracts for services for ARRA funded projects shall have the mandated provisions of this directive in their contracts. Pursuant to Title XV, Section 1512 of the ARRA, the Department will require that the Contractor provide reports and other employment information as evidence to document the number of jobs created and retained by this contract from the Contractor's own workforce and any subcontractors. Additionally, the North Carolina Office of Economic Recovery & Investment (hereinafter, "OERI") has mandated certain procedural and reporting directives that will be followed. Additional provisions have been added to address OERI directives. No direct payment will be made for providing said reports as the cost for same is included in the various items in the contract.

The Contractor agrees that all data submitted to NCDOT and FRA in compliance with the Recovery Act requirements shall be accurate, objective, and of the highest integrity.

Posting with the Local Employment Security Commission

In addition to any other job postings the Contractor normally uses, OERI requires that the Contractor post with the local Employment Security Commission Office, all positions for which he intends to hire workers as a result of being awarded this contract. Labor and semi-skilled positions must be posted for at least 48 hours before the hiring decision. All other positions must be posted a minimum of five days before the hiring decision. The selected Contractor and any subcontractors shall report the new hires in the manner prescribed by the Employment Security Commission and the OERI. The NC ESC website can be found at www.ncesc.com.

Required Contract Provision to Implement ARRA Section 902

Section 902 of the American Recovery and Reinvestment Act (ARRA) of 2009 requires that each contract awarded using ARRA funds must include a provision that provides the U.S. Comptroller General and his representatives with the authority to:

- (1) Examine any records of the Contractor or any of its subcontractors, or any State or local agency administering such contract, that directly pertain to, and involve transactions relating to, the contract or subcontract; and
- (2) Interview any officer or employee of the Contractor or any of its subcontractors, or of any State or local government agency administering the contract, regarding such transactions.

Accordingly, the Comptroller General and his representatives will have the authority and rights as provided under Section 902 of the ARRA with respect to this contract, which is funded with recovery funds made available under the ARRA. Section 902 further states that nothing in this section shall be interpreted to limit or restrict in any way any existing authority of the Comptroller General.

Authority of the Inspector General

Section 1515(a) of the ARRA provides authority for any representatives of the Inspector General to examine any records or interview any employee or officers working on this contract. The Contractor is advised that representatives of the Inspector General have the authority to examine any record and interview any employee or officer of the Contractor, its subcontractors or other firms working on this contract. Section 1515(b) further provides that nothing in this section shall be interpreted to limit or restrict in any way any existing authority of the Inspector General.

Office of State Budget and Management Access to Records

OERI requires that the Contractor and subcontractor agree to allow the Office of State Budget and Management internal auditors and state agency internal auditors access to records and employees pertaining to the performance of any contract awarded by a public agency.

Buy America Provision

49 U.S.C. Section 24405(a)(1) requires that iron, steel and manufactured goods used in public buildings or public works projects must be manufactured in the United States. The Contractor agrees to abide by this provision and shall maintain records of such purchases for inspection by authorized agents of the State of North Carolina and federal agencies. The Contractor shall provide the Certificate of Compliance with Buy America to the Engineer. Copies of this certificate are available on the Piedmont Improvement Program website at <http://www.piedmontrail.biz/primary-navigation/links-and-resources>.

Wage Rate Provision (applies to all construction, alteration or repair projects)

Section 1606 of the ARRA requires that all laborers and mechanics employed by Contractors and subcontractors with funds from the ARRA shall be paid wages at rates not less than the prevailing wage rate under the Davis-Bacon Act. The Contractor agrees that by the submission of a proposal/bid in response to a solicitation funded in whole or in part with recovery funds, continuous compliance will be maintained with the Davis-Bacon Act. This applies to all construction contracts that exceed \$2,000.

Labor Provisions

As provided by 49 U.S.C. 24405(b), persons conducting rail operations over rail infrastructure constructed or improved in whole or in part with funds provided through the ARRA agreement shall be considered a "rail carrier," as defined by 49 U.S.C. 10102(5), for the purposes of Title 49, United States Code, and any other statute that adopts that definition or in which that definition applies, including the Railroad Retirement Act of 1974 (45 U.S.C. 231 et seq.), the Railway Labor Act (43 45 U.S. C. 151 et seq.), and the Railroad Unemployment Insurance Act (45 U.S.C. 351 et seq.).

Availability and Use of Funds

Contractors understand and acknowledge that any and all payment of funds, or the continuation thereof, is contingent upon funds provided solely by ARRA or required state matching funds. Pursuant to Section 1604 of ARRA, Contractors agree not to undertake or make progress toward any activity using recovery funds that will lead to the development of such activity as casinos or other gambling establishments, aquariums, zoos, golf courses, swimming pools or any other activity specifically prohibited by the Recovery Act. Also, funds are not to be used for travel beyond the service area. Further, Contractor understands that ARRA funding is considered "one-time" funding.

Outsourcing outside the USA without Specific Prior Approval Provision

Contractor agrees not to use any recovery funds from a contract or any other performance agreement awarded by the State of North Carolina, its agencies, or political subdivisions for outsourcing outside of the United States, without specific prior written approval from the agency issuing the contract.

Federal, State and Local Tax Obligations

By submission of a proposal, Contractors and subcontractors assert and self-certify that all Federal, State and local tax obligations have been or will be satisfied prior to receiving recovery funds.

Anti-Discrimination and Equal Opportunity

Pursuant to Section 1.7 of the guidance memorandum issued by the United States Office of Management and Budget on April 3, 2009, recovery funds must be distributed in accordance with all anti-discrimination and equal opportunity statutes, regulations, and Executive Orders pertaining to the expenditure of funds.

Reports of Fraud or Waste

Contractors must report to the Inspector General any suspected incidence of waste, fraud and abuse related to ARRA funds, and should notify FRA regional offices of any problems encountered as they occur. Notification can be made by phone at (919) 807-4731 or electronically at oeri@osbm.nc.gov. Additional information can be found on the NC Recovery website (www.ncrecovery.gov) by clicking "Reporting of Waste and Fraud".

False Claims Act

Contractors and subcontractors awarded funds made available under the Recovery Act shall promptly report to the Inspector General any credible evidence that a principal, employee, agency, Contractor, subcontractor or other person has submitted a false claim under the False Claims Act or has committed a criminal or civil violation of laws pertaining to fraud, conflict of interest, bribery, gratuity, or similar misconduct involving Recovery Act funds.

Whistleblower Provisions

Contractors understand and acknowledge that Article 14 of Chapter 124, NCGS 126-84 through 126-88 (applies to the State and state employees), Article 21 of Chapter 95, NCGS 95-240 through 95-245 (applies to anyone, including state employees), and Section 1553 of the Recovery Act (applies to anyone receiving federal funds), provide protection to State, Federal and contract employees.

Contractors or Agencies cannot discharge, demote, or otherwise discriminate against an employee as a reprisal for disclosing, including a disclosure made in the ordinary course of an employee's duties, to the Recovery Accountability and Transparency Board, an Inspector General, the Comptroller General, a member of Congress, a State or Federal regulatory or law enforcement agency, a person with supervisory authority over the employee (or such other person working for the employer who has the authority to investigate, discover or terminate misconduct), a court or grand jury, the head of a Federal agency or their representative, information that the employee reasonably believes is evidence of:

- (A) gross mismanagement of an agency contract or grant relating to covered funds;

- (B) a gross waste of covered funds;
- (C) a substantial and specific danger to public health or safety related to the implementation or use of covered funds;
- (D) an abuse of authority related to the implementation or use of covered funds; or
- (E) a violation of law, rule, or regulation related to an agency contract (including the competition for or negotiation of a contract) or grant, awarded or issued relating to covered funds.*

* covered funds: “any contract, grant, or other payment received by any non-federal employer if a) the Federal Government provides any portion of the money or property that is provided, requested or demanded; and b) at least some of the funds are appropriated or otherwise made available by this Act” 1553 (g)(2).

Contractor agrees to post notice of the rights and remedies as required by the ARRA.

Emblems

The Contractor agrees to use signs and materials at all fixed project locations at the most publicly accessible location announcing that the project or equipment was funded by the U.S. Department of Transportation, Federal Railroad Administration, with funds provided through the American Recovery and Reinvestment Act as directed by NCDOT. This provision is to be included in any subagreements, leases, third party contracts, or other similar documents used in connection with its Recovery Act Project.

Contractor Responsibilities and Reporting Requirements under ARRA

Contractors are required to complete projects or activities which are funded under the ARRA and to report on use of the funds provided through this award as directed. Information from these reports will be made available to the public. The reporting responsibility should be passed down from the Contractor to the subcontractor in order to ensure that the necessary information is provided within the specified deadline.

Contractors are not responsible for reporting ARRA requirements directly to FRA. The Contractor shall report the required data by way of NCDOT-supplied forms (either Microsoft Excel forms and in the approved version of Excel or editable pdf forms, as provided by NCDOT). The responsibilities for reporting are as follows:

(A) General

(1) Obtaining a Data Universal Numbering System (D-U-N-S) number or the Contractor may use their name and zip code of their Headquarters. For more information, visit <http://fedgov.dnb.com/webform> (for US and International locations) or call 866-705-5711. The toll free number is for US locations only. Registrants will be asked for their entity name, address, city, state, country, postal code, highest ranking individual's name and title, line of business, # of employees and legal structure (i.e.: corporation, non-profit, etc.) and socio economic data (veteran owned, women owned, etc.). If they use the web-form, there is a mailing address area, SIC code and annual revenue data lines but these are optional.

(2) Expenditure amount (amount of payment).

(3) Expenditure description (what was exchanged for the payment).

(4) A brief description of the types of jobs created and jobs retained. "Jobs or positions created" means those new positions created and filled, or previously existing unfilled positions that are filled, as a result of Recovery Act funding. "Jobs or positions retained" means those previously existing filled positions that are retained as a result of Recovery Act funding. A job cannot be reported as both created and retained. Note that contractors will describe jobs created and retained, but will not need to determine which were created versus which were retained.

(5) An estimate of the number of jobs created and jobs retained. At a minimum, this estimate shall include any new positions created and any existing filled positions that were retained to support or carry out Recovery Act projects. The number shall be expressed as "full-time equivalent" (FTE), reported monthly as all hours worked divided by the total number of hours in a full-time schedule.

(6) Percent complete and DBE payment data shall be submitted on a monthly basis, and is due to the NCDOT-Rail Division within 5 days of the end of each month.

(B) ARRA Section 1512

Contractor shall complete Form FHWA-1589 for each month and submit it to the NCDOT-Rail Division within 7 days after the end of the month. This data will be required until the contract is complete.

- (1) Contractors will need to report the number of direct on-site job hours associated with the ARRA funds awarded as of the end of the reporting period.
 - (a) Contractors will not be expected to estimate indirect employment data (such as the employment needed to make “off the shelf” parts that the Contractor purchases).
 - (b) The Contractor shall report direct labor (for example, construction workers building a maintenance facility, or transit agency workers doing preventive maintenance) for the prime as well as all subcontractors.
 - (c) The Contractor shall report direct labor for suppliers when the quantity or value of purchases passes a threshold where there is likely an identifiable employment impact for the vendor. NCDOT will provide detailed guidance and assistance in this calculation.
 - (d) USDOT economists will compute the number of indirect jobs and induced jobs (for example, jobs at suppliers or in unrelated industries as a result of the money flowing through the economy.)
- (2) Contractors and consultants shall provide the required information for their own workforce as well as the workforce of all subcontractors that were active on their ARRA funded project(s) for the reporting month.
- (3) The requirement for monthly reporting of employment data is included in all ARRA funded contracts to ensure transparency throughout the delivery of the project. As such, specific requirements have been developed for reporting this monthly data. All Contractors awarded projects shall attend a training session in Raleigh, North Carolina to discuss reporting requirements and procedures.

The Contractor hereby agrees to comply with the Contract Provisions and Reporting Requirements as indicated in the American Recovery and Reinvestment Act of 2009 and any amendments thereto. The Contractor also agrees to comply with any additional reporting requirements that may be requested by NCDOT, FRA, USDOT, the Inspector General (IG), the Government Accountability Office (GAO), or other entities, for example Congressional committees or individual members of Congress. The Contractor hereby agrees to inspections or audits that may occur at any time from the any of the above referenced federal or state agencies. Contractors are requested to provide a copy of any such reports to NCDOT on any responses to such requests for information or as a result of an inspection or audit.

SPECIAL NOTICE TO BIDDERS:

(2-19-13) (Rev. 6-18-13)

SP1 G71

This project involves constructing new railroad roadbed on existing Railroad Right of Ways. The North Carolina Department of Transportation will be administering the project and the work will be constructed in accordance with the *January 2012 NCDOT Standard Specification for Roads and Structures*. The *Standard Specifications for Roads and Structures, January 2012 of the North Carolina Department of Transportation*, hereinafter referred to as the *Standard Specifications*, shall apply to the articles of the Project Special Provisions. Portions of the work will be done in accordance with Norfolk Southern, Standard Specifications for Materials and Construction, February 2013 and North Carolina Railroad Company's, FORM NCR 103, SPECIFICATIONS FOR PIPELINE OCCUPANCY OF NORTH CAROLINA RAILROAD COMPANY, Revised January 2009 and FORM NCR 102, SPECIFIC REQUIREMENTS OF NORTH CAROLINA RAILROAD COMPANY FOR WORK ON ITS RIGHT OF WAY, September 1, 2003. These Project Special Provisions sections of the proposal have been written to be in accordance with these documents.

The construction will be taking place in existing Railroad Right of Way owned by North Carolina Railroad Company adjacent to existing tracks that are operated and maintained by Norfolk Southern Corporation. Safety in the Right of Way will be top priority and Norfolk Southern's safety and security policies shall be followed for all employees working within the Right of Way. The safety and security policies and guidelines are further defined in the special provisions.

All work adjacent to the live tracks shall be coordinated with the Norfolk Southern Railway (NSR) Roadway Worker In Charge, as defined later in this document. As a result of safety requirements for passing trains, there will be intermittent delays requiring all equipment within 25' of the operating tracks to stop work until authorized to proceed by the Railroad. This will result in intermittent delays to the contractor's operations. The contractor needs to account for this in preparing his bid. The contractor shall have no claims whatsoever against the Railroad or the Department for any delays or additional cost incurred for the delays or any changes to the information above after the date of receipt.

PREQUALIFICATION OF RAIL ROAD GRADING CONTRACTORS (PIP):

(2-19-13)

SP1 G72

Contractors desiring to perform work on this project shall be prequalified in accordance with Article 102-2 of the *2012 Standard Specifications*. Due to this job being on NCRR right of way and working within close proximity of active rail tracks for both freight and passenger trains, all prime contractors must be prequalified to do work covered by **work code 5090**. All bidders shall be prequalified for work code 5090 within 10 calendar days of bid opening, in order to be awarded the contract.

The following criteria may be used to help prequalify contractors for this project:

- (A) Within the last 5 years, the applicant must have been a prime contractor on at least two (2) Interstate or US Route Improvement Projects (i.e. widening, resurfacing), or a prime contractor on two (2) railroad roadbed projects parallel and adjacent to active main track on a Class I Railroad. NCDOT may also consider comparable experience on heavily travelled state routes and airport runway projects.

- (B) The above projects must have been at least \$4 million in project cost.
- (C) Within the last 5 years the applicant must have had at least one project (does not have to be one of the 2 above) that was within or over railroad right of way and involved a rail flagger.

PROTECTION OF RAILROAD INTEREST:

(2-19-13)

SP1 G73 (REV.)

KEY STAKEHOLDERS AND ROLES FOR THE JOB

The following defines the roles of key stakeholders and persons with authority on the job

TERMS	DEFINITIONS
Owner, Company	North Carolina Railroad Company (NCRR). They own the right of way, facilities, tracks, structures, etc., that Norfolk Southern Railway and others operate on.
Owner's Engineer/Representative	North Carolina Railroad Company's engineer or their authorized representative for the project.
Operating Railroad, Railroad, Railway, Railway Company	Norfolk Southern Railway (NSR) operates and Railroad Company maintains the track facilities and signals.
Railroad Engineer	NSR Engineers or their authorized representatives.
RWIC/flagman	<u>R</u> oadway <u>W</u> orker <u>I</u> n <u>C</u> harge. This is NSR's onsite representative responsible for obtaining track time for work activities adjacent to the tracks and safety within the Railroad right of way. He/She may be in charge of multiple Railroad flagmen assigned to a project if more than one is required or he may be the flagman for the project.
NCDOT, Department, Department of Transportation,	The North Carolina Department of Transportation is administering the contracts and performing the inspection on the projects for compliance. Also, referred to as the Department or NCDOT.
Engineer, Department's Engineer	NCDOT's Division Engineer, Division Construction Engineer (DCE), Resident Engineer (RE), Assistant Resident Engineer, the authorized representative for NCDOT.
Inspector, Department's Inspector	The authorized inspector for NCDOT.
Standard Specifications, Specifications	NCDOT Standard Specifications for Road and Structures, January 2012.
NCDOT Rail, Rail Division	The North Carolina Department of Transportation, Rail Division. They are a branch of the Department of Transportation responsible for schedule review, reviewing change orders; assisting in answering requests for information (RFI), and working with the owners, operating rail and the Department, and the FRA for compliance and project closeout.
NSR Specifications 2013	Norfolk Southern Standard Specifications for Materials and Construction – February 2013.

TERMS	DEFINITIONS
NCRR Specifications	This includes the following documents: North Carolina Railroad - NCR101 – Specifications for Wire, Conduit and Cable Occupations of North Carolina Railroad Company, NCR102 – Specifications for Pipeline Occupancy of North Carolina Railroad Company, NCR103 – Specific Requirements of North Carolina Railroad Company for Work on its Right of Way.

AUTHORITY OF RAILROAD ENGINEER AND DEPARTMENT ENGINEER

The authorized representative of the Operating Railroad Company, hereinafter referred to as Railroad Engineer, shall have final authority in all matters affecting the safe maintenance of Railroad traffic of the Operating Railroad Company including the adequacy of the foundations and structures supporting the Railroad tracks.

The authorized representative of the North Carolina Department of Transportation, hereinafter referred to as the Engineer, shall have authority over all other matters as prescribed herein including Project Specifications, Special Provisions, and the plans.

SAFETY GUIDELINES FOR PERSONNEL WORKING ON COMPANY CORRIDOR

All contractor and subcontractor personnel working on NCRR right of way and on or adjacent to NSR operated tracks shall attend and pass a Roadway Worker Training course for NSR prior to beginning work on the Railroad right of way and shall attend the class annually. Contractor and subcontractor personnel shall adhere to the following Norfolk Southern Railway safety guidelines:

- (A) The Contractor and all personnel must follow all applicable railroad and governmental rules, with particular attention paid to railroad operating rules, Railroad rules for the conduct of contractors, Railroad rules for the operation of moving vehicles, and Federal Railway Administration roadway worker rules.
- (B) No one shall be allowed within 25' of the centerline of the nearest track without the specific authorization of the RWIC/flagman.
- (C) The Contractor shall require that its employees or employees of any subcontractors wear the following while on or about the Railroad right of way:
 - (1) Appropriate head protection.
 - (2) Appropriate eye protection.
 - (3) Appropriate hearing protection.
 - (4) Appropriate respiratory protection.
 - (5) Appropriate high visibility reflective safety vests are required for work inside active intermodal facilities, public rights of way, or other locations as required by the Railroad and the MUTCD.

- (6) Suitable protective clothing and footwear. Working in shorts is prohibited. Shirts must cover shoulders, back and abdomen. Working in tennis or jogging shoes, sandals, boots with high heels, cowboy and other slip-on type boots is prohibited. Hard sole, lace up footwear, zippered boots or boots cinched up with straps which fit snugly about the ankle are adequate. Safety steel toe boots are required.
 - (7) All protective equipment must be in good condition and properly fitted.
- (D) The Contractor shall observe the safety provisions of applicable laws and building and construction codes shall be observed. Machinery and equipment and other hazards shall be guarded in accordance with the safety provisions of the most recent edition of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are consistent with applicable law or regulation.
 - (E) The Contractor shall permit only qualified personnel to perform welding. Proper clothing, gloves and shields must be worn for body and eye protection. All welding equipment must be properly tested and in good working order. All welding equipment and cutting torches being used within 25 feet of the track must be shut off and work stopped when train is passing.
 - (F) Anyone working on Railroad Right-of-Way found to be under the influence of alcohol or other intoxicant, narcotic or hallucinogenic drug, or in possession of such intoxicant or drug, shall be dismissed from the property by the Contractor and not allowed to return.
 - (G) When anyone working on Railroad right of way is injured, the Contractor shall arrange for emergency medical assistance, if needed, and the Contractor shall notify Railroad Engineer and the Department's Engineer of such incident by the quickest method of communication available.
 - (H) The Contractor shall not permit the use of defective or improvised tools and equipment for the work.
 - (I) At the direction of the Railroad Engineer and the Department's Engineer, the Contractor shall work with local emergency response personnel to develop action plans to respond to emergency situations.
 - (J) The Contractor is responsible for maintaining emergency site access(es) for local emergency response personnel.
 - (K) The Contractor must promptly notify Railroad Engineer and the Department's Engineer of any safety incident or injury involving any person(s) on the project site.
 - (L) The Contractor shall hold daily safety briefings involving all personnel working on site per railroad safety rules. Personnel arriving onsite after the safety briefing shall be briefed before proceeding with their work. The Contractor and all personnel shall hold additional safety briefings during the day as conditions or work changes.

- (M) The Contractor is responsible for obtaining eRailSafe certification for itself and its employees working on Railroad right of way upon award of Contract. The Contractor shall follow all eRailSafe requirements and escort all subcontractors or non-certified employees on site. Information about requirements and responsibilities to become eRailSafe can be found at: <http://www.e-railsafe.com/>
- (N) The Contractor and all personnel are responsible for obtaining FRA and NSR approved Roadway Worker Certification through an NSR-approved trainer.
- (O) All persons working near track while train is passing are to lookout for dragging bands, chains and protruding or shifted cargo.
- (P) No one is allowed to cross tracks without specific authorization from the flagman.
- (Q) No steel tape or chain will be allowed to cross or touch rails without permission.

GUIDELINES FOR EQUIPMENT WORKING ON COMPANY'S CORRIDOR

The following applies to all equipment being operated within the Railroad right of way:

- (A) The Contractor's actions shall not interfere with normal train operations. The Contractor shall provide a weekly schedule of activities that may affect train operations or require flagging protection.
- (B) NSR will provide service outages only when absolutely required for construction activities as determined by the Railroad Engineer. No claim by the Contractor against NSR and the Department will be allowed for delays caused by NSR's operations.
- (C) When working on or near operating tracks to be kept in service, NSR may provide a schedule of allowable work periods. Allowable work periods may change due to the variances in train operations. If the Contractor fails to comply with the schedules and performs its work in a manner that causes delay to NSR train operations, it shall be liable for any delays and shall reimburse NSR upon receipt of bills therefore. If at any time the Contractor is required to work longer than a normal 8 hour day to prevent disruption to NSR's train operations, then the Contractor shall do so at no expense to the Railroad and the Department.
- (D) At locations where a flagman is deemed necessary by the Railroad Engineer for the safety of Railroad's property and operations, the Contractor will observe the directions given by the RWIC/flagman. The Contractor will assure that its officers, agents, suppliers, subcontractors and employees observe the directives given by the RWIC/flagman. It is distinctly understood, however, that no direction or failure to give direction by the RWIC/flagman will relieve the Contractor from any of its indemnification commitments in the contract.

- (E) No one shall be allowed within 25' of the centerline of the nearest track without the specific authorization of the RWIC/flagman.
- (F) No one shall be allowed to cross the tracks without specific authorization of the RWIC/flagman.
- (G) All persons working near the track while a train is passing are to look for dragging bands, chains and protruding or shifted cargo. If any of these are observed, they must notify the RWIC/flagman immediately.
- (H) No one shall be allowed to pass between, over or under rail cars.
- (I) No steel or metallic chain or measuring tape shall be allowed to cross or touch rails without permission of the RWIC/flagman.
- (J) No construction materials shall be placed on tracks without approval of the Railroad Engineer.
- (K) When working on tracks, switches shall be lined away from the work area and switch points spiked down or clamped or rail ends mismatched to prevent cars or engines from entering the work area.
- (L) No crane or boom equipment will be allowed to set up to work or park within boom distance plus 15' of centerline of track without specific permission from railroad official and flagman.
- (M) No crane or boom equipment will be allowed to foul track or lift a load over the track without flagman protection and track time.
- (N) All employees will stay with their machines when crane or boom equipment is pointed toward track.
- (O) All cranes and boom equipment under load will stop work while train is passing (including pile driving).
- (P) Swinging loads must be secured to prevent movement while train is passing no loads will be suspended above a moving train.
- (Q) No equipment will be allowed within 25' of centerline of track without specific authorization of the flagman.
- (R) Trucks, tractors or any equipment will not touch ballast line without specific permission from flagman.
- (S) No equipment or load movement within 25' or above a standing train or railroad equipment without specific authorization of the flagman.

- (T) All operating equipment within 25' of track must halt operations when a train is passing. All other operating equipment may be halted by the flagman if the flagman views the operation to be dangerous to the passing train.
- (U) All equipment, loads and cables are prohibited from touching the rails.
- (V) While clearing and grubbing, no vegetation will be removed from railroad embankment with heavy equipment without specific permission from the Railroad Engineer and flagman.
- (W) The Contractor is responsible for the ingress and egress of its plant, equipment, materials and labor to and from the construction site in accordance with the following:
 - (1) No movement that may endanger the safe normal Railroad operations shall be made without the approval of the RWIC/flagman as to route and time of use.
 - (2) No movement of the Contractor's plant equipment, materials and labor to and from the site shall be made without the approval of the RWIC/flagman.
- (X) Railroad regulations concerning the movement of vehicles on Railroad property shall be followed by the Contractor, its subcontractors and all of the respective personnel, including, without limitation, weight restrictions for roadways.
- (Y) Use of access routes shall not cause the fouling of turnouts, flangeways, equipment, and drainage facilities with gravel, mud, waste materials, or timbers used for crossing tracks. Such routes shall be planned in such a way to minimize the risk of damage to Railroad facilities and must be approved by the Railroad Engineer.
- (Z) No equipment or materials will be parked or stored on Company's corridor unless specific authorization is granted from the Railroad Engineer.
- (AA) All unattended equipment that is left parked on Company's corridor shall be effectively immobilized so that it cannot be moved by unauthorized persons.
- (BB) All cranes and boom equipment will be turned away from track after each work day or whenever unattended by an operator.

FAILURE TO COMPLY WITH SAFETY REQUIREMENTS

Failure to comply with any safety requirements within the railroad right of way may result in the removal of the individual or individuals responsible for violation of policies. Depending upon the severity of the violation as determined by the Railroad Engineer, RWIC/flagman or the Department's Engineer, the individual or individuals implicated must leave the RR right of way within 1 hour of notification of the violation. Depending on the severity of the violation, the individual or individuals who were involved in the incident may be able to return to the job the following day. That determination will be made by the RWIC and the Departments representative on site. The individual or individuals will be notified if they are allowed to return the following day by the close of business the day of the occurrence. If they are not allowed to return the next day, the contractor may file an appeal to the Department's Engineer requesting

the individual or individuals accused of the violation be allowed to return to the job. The Resident Engineer will then notify the Railroad of the appeal and a meeting will be held to determine if the individual or individuals will or will not be allowed to return to the job. The individual or individuals alleged to have committed the violation will not be allowed on the project until after the Railroad Engineer and Department Engineer have reviewed the appeal and made a determination if the individual or individuals may return. If a person is allowed return to the site after the appeal process and a second violation of policies occurs, that will be grounds for permanent removal of the individual from the worksite. This does not only apply to individuals, but may apply to entire crews as well depending on the circumstances and severity of the violation of policy. The contractor shall have no claims whatsoever against the Railroad or the Department for any delays or additional cost incurred as a result of safety violations and removal of the individual or individuals from the job.

FEDERAL RAILROAD ADMINISTRATION (FRA) SAFETY REQUIREMENTS

In addition to NSR safety guidelines above, the Contractor will be required to adhere to the safety requirements of the Federal Railroad Administration and comply with Title 49, Volume 4, Chapter 2, Part 213 and 214 of the Code of Federal Regulations. This information can be found at the following link:

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=ef344d8e404793fcb6650641e75f7e43&rgn=div5&view=text&node=49:4.1.1.1.8&idno=49>

The FRA may conduct inspections on this project and fines can be levied against both the individual cited and the contractor for violations of these policies. The contractor shall have no claims whatsoever against the Railroad or the Department for any delays or additional cost incurred as a result of violations and fines for noncompliance with the above FRA guidelines.

RAILROAD INSURANCE: SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTEREST

State Project: C-4901A

County: Davidson

- (A) In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, the Prime Contractor will be required to provide coverage conforming to the requirements of the Federal-Aid Policy Guide outlined under 23 CFR 646A for all work to be performed on Company's corridor by carrying insurance of the following kinds and amounts:

- (1) **CONTRACTOR'S COMMERCIAL GENERAL LIABILITY INSURANCE:**
The Contractor shall furnish an original and one copy of the certificate of insurance and one certified copy of the policy to the Department as evidence that, with respect to the operations he performs on railroad right of way, he carries regular Commercial General Liability Insurance having a combined single limit of not less than \$2,000,000 per occurrence for all loss, damage, cost and expense, including attorneys' fees, arising out of bodily injury liability and property damage liability during the policy period. Said policy shall include explosion, collapse, and underground hazard (XCU) coverage, shall be endorsed to name Company and Railroad specified in item A.2.c. below as an additional insured, and shall include a severability of interests provision.

(2) RAILROAD PROTECTIVE LIABILITY INSURANCE:

The Contractor shall furnish to the Department an original and one duplicate of the Railroad Protective Liability Insurance having a combined single limit of not less than \$2,000,000 each occurrence and \$6,000,000 in the aggregate applying separately to each annual period. If the project involves track over which passenger trains operate, the insurance limits required are not less than a combined single limit of \$5,000,000 each occurrence and \$10,000,000 in the aggregate applying separately to each annual period. Said policy shall provide coverage for all loss, damage or expense arising from bodily injury and property damage liability, and physical damage to property attributed to acts or omissions at the job site.

The standards for the Railroad Protective Liability Insurance are as follows:

- (a) The insurer must be rated A- or better by A.M. Best Company, Inc.
- (b) The policy must be written using one of the following combinations of Insurance Services Office ("ISO") Railroad Protective Liability Insurance Form Numbers:
 - (1) CG 00 35 01 96 and CG 28 31 10 93; or
 - (2) CG 00 35 07 98 and CG 28 31 07 98; or
 - (3) CG 00 35 10 01; or
 - (4) CG 00 35 12 04
- (c) The named insured on each policy as required to be issued to each Company and to Railroad shall read: (NOTE: The below insured is to be treated separately as an insured on each railroad protective policy for a total of (2) two separate policies being issued.)

North Carolina Railroad Company
 2809 Highwoods Blvd, Suite 100
 Raleigh, NC 27604-1000
 Attn: Property Department;

and

Norfolk Southern Railway Company
 Three Commercial Place
 Norfolk, Virginia 23510-2191
 Attn: Risk Management

- (d) The description of operations must appear on the Declarations, must match the project description in this agreement, and must include the appropriate Department project and contract identification numbers.

The Description and Designation shall read:

Construction of new railroad roadbed and bridges along with relocation of utilities accommodating double track from CP "Bowers" to CP "Lake" adjacent to the tracks owned by North Carolina Railroad Company and operated by Norfolk Southern Railway in Davidson County, North Carolina, identified as State TIP C-4901A and Federal Project FRA-FR-HSR-0006-10-01-00.

- (e) The job location must appear on the Declarations and must include the city, state, and appropriate highway name/number.
 - (f) The name and address of the prime contractor must appear on the Declarations.
 - (g) The name and address of the Department must be identified on the Declarations as the "Involved Governmental Authority or Other Contracting Party."
 - (h) Other endorsements/forms that will be accepted are:
 - (1) Broad Form Nuclear Exclusion – Form IL 00 21
 - (2) 30-day Advance Notice of Non-renewal or cancellation
 - (3) 60-day written notice be given the Department prior to cancellation or change
 - (4) Quick Reference or Index Form CL/IL 240
 - (i) Endorsements/forms that are NOT acceptable are:
 - (1) Any Pollution Exclusion Endorsement except CG 28 31
 - (2) Any Punitive or Exemplary Damages Exclusion
 - (3) Known injury or Damage Exclusion form CG 00 59
 - (4) Any Common Policy Conditions form
 - (5) Any other endorsement/form not specifically authorized in item no. 2.h above.
- (B) If any part of the work is sublet, similar insurance, and evidence thereof as specified in A.1 above, shall be provided by or on behalf of the subcontractor to cover its operations on Railroad's right of way. As an alternative, the Prime Contractor may provide insurance for the subcontractor by means of separate and individual policies.
- (C) Prior to entry on Company's corridor, the original and one duplicate copy of the Railroad Protective Liability Insurance Policy shall be submitted by the Prime Contractor to the Department at the address below for its review and transmittal to the Company and Railroad. In addition, certificates of insurance evidencing the Prime Contractor's and any subcontractors' Commercial General Liability Insurance shall be issued to the Department, Company and Railroad at the addresses below, and one certified copy of the Prime Contractor and any Subcontractor's policy is to be forwarded to the Department for its review and transmittal to the Company and Railroad. All policies and certificates of insurance shall state that the insurance coverage will not be suspended, voided, canceled, or reduced in coverage or limits without (30) days advance written notice to the Department, Company and Railroad. The Railroad will not permit any work on Company's corridor until the Company and Railroad has reviewed and approved the evidence of insurance required herein.

DEPARTMENT:

NCDOT Rail Division
 Engineering & Safety Branch
 C/O State Railroad Agent
 1556 Mail Service Center
 Raleigh, NC 27699-1556

RAILROAD:

Risk Management
 Norfolk Southern Railway Company
 Three Commercial Place
 Norfolk, Virginia 23510-2191

COMPANY:

North Carolina Railroad Company
 2809 Highwoods Blvd.
 Suite 100
 Raleigh, NC 27604

- (D) The insurance required herein shall not limit the obligations of Department or its Contractors under the terms of this agreement.
- (E) The insurance amounts specified are minimum amounts and that the Contractor may carry insurance in larger amounts if he so desires. As to "aggregate limits", if the insurer establishes loss reserves equal to or in excess of the aggregate limit specified in any of the required insurance policies, the Contractor shall immediately notify the Department and shall cease all operations until the aggregate limit is reinstated. If the insurer establishes loss reserves equal to or in excess of one-half of the aggregate limit, the Contractor shall arrange to restore the aggregate limit to at least the minimum amount stated in these requirements. Any insurance policies and certificates taken out and furnished due to these requirements shall be approved by the Department, Company and Railroad as to form and amount prior to beginning work on Company's corridor.
- (F) All insurance herein before specified shall be carried until the final inspection and acceptance of the project by the Department, Company and Railroad, or acceptance of that portion of the project within Company's corridor. At this point, no work or any other activities by the Contractor shall take place in Company's corridor without written permission from the Department, Company and Railroad.

FAILURE TO COMPLY

In the event the Contractor violates or fails to comply with any of the requirements of these Special Provisions:

- (1) The Railroad Engineer may require that the Contractor vacate Company's corridor.
- (2) The Engineer may withhold all monies due the Contractor on monthly statements.

Any such orders shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

PAYMENT FOR COST OF COMPLIANCE

No separate payment will be made for any extra cost incurred on account of compliance with these special provisions. All such cost shall be included in prices bid for other items of the work as specified in the payment items.

RAILROAD SITE DATA

The following information is provided as a convenience to the Contractor. This information is subject to change and the Contractor should contact the Railroad to verify the accuracy. Since this information is shown as a convenience to the Contractor but is subject to change, the Contractor shall have no claims whatsoever against either the Railroad or the Department of Transportation for any delays or additional costs incurred based on changes in this information.

Number of tracks	-	1
Number of trains per day	-	46
Type of Trains per day	-	Passenger and Freight
Maximum speed of trains	-	79 mph

NOTICE OF STARTING WORK

The contractor shall not commence any work on Company's corridor until the contractor has complied with the following conditions:

- (A) Give the Company and Railroad written notice, with copy to the Engineer who has been designated to be in charge of the work, at least ten days in advance of the date the contractor proposes to begin work on Company's corridor/NCRR right of way. Notice to be given to:

Mr. Rick Meredith, PE
Norfolk Southern Corporation
1200 Peachtree Street NE
Building Box 142
Atlanta, Georgia 30309

Mr. Jim Kessler, PE
North Carolina Railroad Company
2809 Highwoods Blvd
Suite 100
Raleigh, NC 27604

- (B) Obtained written authorization from both Norfolk Sothern Railway and North Carolina Railroad Company to begin work on Railroad right-of-way, such authorization to include an outline of specific conditions with which the contractor must comply.
- (C) Obtained written approval from the Railroad of Railroad Protective Insurance Liability coverage as required by the provisions for Railroad Insurance above. The Railroad does not accept notation of Railroad protective insurance on a certificate of liability insurance form or Binders as Railroad must have the full original countersigned policy. The policy will be reviewed for compliance prior to written approval. Due to the number of projects system-wide, it typically takes a minimum of 30-45 days for Railroad to review.
- (D) Furnish a schedule for all work within the Railroad right-of-way as required. Obtain written authorization from the Railroad to begin work on Company's right of way, such authorization to include an outline of specific conditions with which he must comply.
- (E) Obtain Railroad's Flagging Services as required.
- (F) The contractor must execute and deliver to NCRR and NSR a standard construction right of entry agreement approved by NCRR and NSR together.

The Railroad's written authorization to proceed with the work shall include the names, addresses, and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

INTERFERENCE WITH RAILROAD OPERATIONS

The Contractor shall so arrange and conduct his work that there will be no interference with Railroad operations, including train, signal, telephone and telegraphic services, or damage to the property of the Company or Railroad or to poles, wires, and other facilities of tenants on the right of way of the Company. Whenever work is liable to affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor which requires flagging service or inspection service (watchman) shall be deferred by the Contractor until the flagging protection or inspection service required by the Railroad is available at the job site.

Whenever work within Company's corridor is of such a nature that impediment to Railroad operations such as use of runaround tracks or necessity for reduced speed is unavoidable, the Contractor shall schedule and conduct his operations so that such impediment is reduced to the absolute minimum.

Should conditions arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of the Company and Railroad, the Contractor shall make such provisions. If in the judgment of the Railroad Engineer, or in his absence, the Railroad's Division Engineer, such provision is insufficient, either may require or provide such provisions as he deems necessary. In any event, such unusual provisions shall be at the Contractor's expense and without cost to the Department, Company, or Railroad.

TRACK CLEARANCES

- (A) Before undertaking any work within railroad right-of-way, or before placing any obstruction over any track, the Contractor shall:
 - (1) Notify the RWIC/Track Supervisor at least 72 hours in advance of the work.
 - (2) Receive assurance from the Railroad Engineer that arrangements have been made for flagging service as may be necessary.
 - (3) Receive permission from the RWIC/Track Supervisor to proceed with the work.
 - (4) Ascertain that the Engineer has received copies of notice to the Railroad and of the Railroad's response thereto.
- (B) The minimum track clearances to be maintained by the Contractor during construction are as follows:
 - (1) Horizontal clearance measured from centerline of track to falsework:
 - 13'-0" on tangent track
 - 14'-0" on curved track
 - (2) Vertical clearance from top of rail to falsework: 22'-0"

CONSTRUCTION PROCEDURES**(A) General**

Construction work and operations by the Contractor on Company's property shall be:

- (1) Subject to the inspection and approval of the NSR and NCDOT.
- (2) In accordance with all of the Railroad's written specific conditions.
- (3) In accordance with the Railroad's general rules, regulations and requirements including those relating to safety, fall protection and personal protective equipment.
- (4) In accordance with these Special Provisions.

(B) Excavation

The subgrade of an operated track shall be maintained with edge of berm at least 7'-0" from centerline of track and not more than 45" below top of rail. Contractor will not be required to make existing section meet this specification if substandard, in which case existing section will be maintained.

(C) Excavation for Structures

The Contractor will be required to take special precaution and care in connection with excavating and shoring pits, and in driving piles or sheeting, for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which they carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material. All plans and calculations for shoring shall be prepared and signed by a North Carolina Registered Professional Engineer. The Professional Engineer will be responsible for the accuracy for all controlling dimensions as well as the selection of soil design values which will accurately reflect the actual field conditions. The procedure for doing such work, including need of and plans for shoring, shall first be reviewed by the Department Engineer then reviewed and approved by the Railroad Engineer, but such approval shall not relieve the Contractor from liability.

Additionally, a walkway with handrail protection may be required as noted in the section for Trainman's walkways herein.

(D) Demolition, Erection, Hoisting

- (1) Railroad tracks and other Company corridor or railroad property must be protected from damage during the procedure.
- (2) The Contractor is required to submit a plan showing the location of cranes, horizontally and vertically, operating radii, with delivery or disposal locations shown. The location of all tracks and other railroad facilities as well as all obstructions such as wire lines, poles, adjacent structures, etc. must also be shown.
- (3) Crane rating sheets showing cranes to be adequate for 150 percent of the actual weight of the pick. A complete set of crane charts, including crane, counterweight, and boom nomenclature is to be submitted.

- (4) Plans and computations showing the weight of the pick must be submitted. Calculations shall be made from plans of the existing and/or proposed structure showing complete and sufficient details with supporting data for the demolition or erection of the structure. If plans do not exist, lifting weights must be calculated from field measurements. The field measurements are to be made under the supervision of the North Carolina Registered Professional Engineer submitting the procedure and calculations.
- (5) A data sheet must be submitted listing the types, size, and arrangements of all rigging and connection equipment.
- (6) A complete procedure is to be submitted, including the order of lifts, time required for each lift, and any repositioning or re-hitching of the crane or cranes.
- (7) All erection or demolition plans, procedures, data sheets, etc. submitted must be prepared, signed and sealed by a North Carolina Registered Professional Engineer.
- (8) The Railroad's engineer must be present at the site during the entire demolition and erection procedure period.
- (9) All procedures, plans and calculations shall first be approved by the Engineer and the Railroad Engineer, but such approval does not relieve the Contractor from liability.

(E) **Blasting**

The Contractor shall obtain advance approval of the Railroad Engineer and the Engineer for use of explosives on or adjacent to Company corridor. The request for permission to use explosives shall include a detailed blasting plan. If permission for use of explosives is granted, the Contractor will be required to comply with the following:

- (1) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Contractor and a licensed blaster.
- (2) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way radios.
- (3) No blasting shall be done without the presence of an authorized representative of the Railroad. At least 72 hours advance notice to the person designated in the Railroad's notice of authorization to proceed will be required to arrange for the presence of an authorized Railroad representative and such flagging as the Railroad may require.
- (4) Have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting at his expense any track misalignment or other damage to Company corridor resulting from the blasting as directed by the Railway's authorized representative. If his actions result in delay of trains, the Contractor shall bear the entire cost thereof.

The Railroad representative/engineer will:

- (1) Determine the approximate location of trains and advise the Contractor the approximate amount of time available for the blasting operation and clean-up.
- (2) Have the authority to order discontinuance of blasting if, in his opinion, blasting is too hazardous or is not in accordance with these special provisions.

(F) Maintenance of Railroad Facilities

The Contractor will be required to maintain all ditches and drainage structures free of silt or other obstructions that may result from construction operations and provide and maintain any erosion control measures as required. The Contractor will promptly repair eroded areas within Company's corridor and repair any other damage to the property of the Company or its tenants.

All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

(G) Storage of Materials and Equipment

Materials and equipment shall not be stored where they will interfere with railroad operations, nor on the corridor of the Company without first having obtained permission from the Railroad Engineer. Such permission will be with the understanding that neither the Company nor Railroad will be liable for damage to such material and equipment from any cause and that the Railroad Engineer may move or require the Contractor to move, at the Contractor's expense, such material and equipment.

All grading or construction machinery that is left idle or parked near the track unattended by a watchman shall be effectively immobilized so that it cannot be moved by unauthorized persons. The contractor shall protect, defend, indemnify and save Company and Railroad, and any associated, controlled or affiliated corporation, harmless from and against all losses, costs, expenses, claim or liability for loss or damage to property or the loss of life or personal injury, arising out of or incident to the contractor's failure to immobilize grading or construction machinery.

(H) Cleanup

During construction of the project, the contractor shall furnish garbage disposal containers and dispose of all trash appropriately. The contractor shall clean the construction site periodically as requested by the Department's Engineer or the Railroad Engineer of all waste, rubbish and unused construction material. The removal of waste and debris shall be the responsibility of the Contractor. Unused construction materials shall be stockpiled in an orderly fashion at a location that will not interfere with train operations and the construction progress. If the contractor does not clean the construction site after receiving notification, other forces may be used to clean the site of waste and rubbish. If other forces are used, monies will be deducted from the contractor for the cost of the cleanup.

Upon completion of the work, the Contractor shall remove from within the limits of the Company's right of way, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the Contractor, and leave said right of way in a neat condition satisfactory to the Chief Engineer of the Railroad or his authorized representative and satisfactory to the Company's authorized representative. Cleanup also includes removal, replacement or cleaning of soiled or contaminated ballast in the construction area.

DAMAGES

The contractor shall assume all liability for any and all damages to his work, employees, servants, equipment and materials caused by railroad traffic.

Any cost incurred by the Company of Railroad for repairing damages to its corridor or to property of its tenants, caused by or resulting from the operations of the Contractor, shall be paid directly to the Company or Railroad by the Contractor.

CONTRACTOR FURNISHED TWO WAY RADIOS

The Contractor shall furnish a minimum of 3 push to talk, two way radios that operate on a frequency unique to the project and separate from NSR frequencies. The operational frequency should not be the same as the frequency on adjacent jobs unless directed by the Railroad Engineer. The radios will be used for communication between the RWIC/flagman or the Railroad's designated contact and the Contractor's Superintendent or designated contact on the job for safety. The Contractor will need to maintain at least 3 working radios at all time during the project. Project conditions and the contractors work may require the need for more than 3 radios on the project. It shall be the Contractors responsibility to furnish the number of radios required by NSR and NCDOT to maintain safety on the project. Failure on the part of the contractor to have working radios on site, can result in suspension of the work until the requirements of provision is met. There will be no direct payment for the cost of furnishing the radios. The cost will be included in other items of work in the contract.

Contractor shall provide radios capable of transmitting and receiving clearly, from any location within project limits. Relaying messages from one radio operator to another will not be an acceptable method. Any upgrades or additional equipment necessary to provide clear transmissions between two single radios, including signal repeaters, will be considered incidental to the provision of radios and will not be subject to additional compensation.

The Contractor will need to submit information about the radios prior to use for approval by the Railroad.

The contractor shall have no claims whatsoever against the Railroad or the Department for any delays or additional cost incurred as a result of failure to have the required number of working radios on site each day or as a result of insufficient radio communication.

FLAGGING SERVICES

All work to be performed by the Contractor within the Railroad Right of Way shall require a flagman be present. Any work to be performed by the contractor requiring flagging service shall be deferred by the contractor until the flagging protection required by the railroad is available at the job site. It will take approximately 30 days from the date the railroad receives notification of award from the NCDOT to provide flagging protection for this project.

(A) When Required

Under the terms of the agreement between the Department and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect its operations. In general, the requirements of such services will be whenever the Contractor's personnel or equipment are or are likely to be, working on the Railroad's right-of-way, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging.

Normally, the Railroad will assign one flagman to a project; but in some cases, more than one may be necessary, such as yard limits where three (3) flagmen may be required. The Railroad Engineer will determine how many flagmen are required for the job. However, if the Contractor works within distances that violates instructions given by the Railroad's authorized representative or performs work that has not been scheduled with the Railroad's authorized representative, a flagman or flagmen may be required full time until the project has been completed. Any additional cost for additional flagging as a result of the Contractor violating the instruction of the RWIC/flagman will be the contractor's responsibility and shall be deducted from the contractor's monies.

(B) Scheduling and Notification

- (1) The Contractor's work requiring railroad flagging services shall be scheduled in advance and updated weekly to insure flagman coverage for the work to be performed. Flagging services will be provided by the Railroad for work required by the contract to complete the project. The contractor's work schedule shall be during normal daylight hours for safety concerns. Nighttime operations are not permitted without prior written approval from the Railroad Engineer and the Department's Engineer and shall be only be considered on a case by case basis.
- (2) Not later than the time that approval is initially requested to begin work on Company corridor, the Contractor shall furnish to the Company, Railroad and the Department a schedule for all work required to complete the portion of the project within Company corridor and arrange for a job site meeting between the Contractor, the Department, and the Railroad's authorized representative. Flagman or Flagmen may not be provided until the job site meeting has been conducted and the Contractor's work scheduled.
- (3) The Contractor, through the Engineer, will be required to give the Railroad representative at least 10 working days of advance written notice of intent to begin work within Company corridor in accordance with this special provision. Once begun, when such work is then suspended at any time, or for any reason, the Contractor, through the Engineer, will be required to give the Railroad representative at least 3 working days of advance notice before resuming work on Railroad right of way. Such notices shall include sufficient details of the proposed work to enable the Railroad representative to determine if flagging will be required. If such notice is in writing, the Contractor shall furnish the Engineer a copy; if notice is given verbally, it shall be confirmed in writing with copy to the Engineer.
- (4) If flagging is required, no work shall be undertaken until the flagman, or flagmen are present at the job site. It may take up to 30 days to obtain flagging initially from the Railroad. When flagging begins, the flagman is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and cannot be called for on a spot basis. If flagging becomes unnecessary and is suspended, it may take up to 30 days to again obtain from the Railroad. Due to Railroad labor agreements, it is necessary to give 5 working days' notice before flagging service may be discontinued and responsibility for payment stopped.

- (5) If, after the flagman is assigned to the project site, an emergency arises that requires the flagman's presence elsewhere, then the Contractor shall delay work on Railroad right of way until such time as the flagman is again available. Any additional costs resulting from such delay shall be borne by the Contractor and not the Company, Department or Railroad.

(C) Payment

The Department will be responsible for paying the Railroad directly for any and all costs of flagging which may be required to accomplish the construction.

Any additional cost for additional flagging as a result of work that is determined to be for the benefit of the Contractor will be the contractor's responsibility and shall be deducted from the Contractor's monies.

- (1) The estimated cost of flagging service is the current rate per day based on a 10-hour work day. This cost includes the base pay for each flagman, overhead, and a per diem charge for travel expenses, meals and lodging. The charge by the Railroad will be the actual cost based on the rate of pay for the Railroad's employees who are available for flagging service at the time the service is required.
- (2) Work by a flagman in excess of 8 hours per day or 40 hours per week, but not more than 12 hours a day will result in overtime pay at 1½ times the appropriate rate. Work by a flagman in excess of 12 hours per day will result in overtime pay at 2 times the appropriate rate. If work is performed on a holiday, the flagging rate is 2½ times the normal rate.
- (3) Railroad work involved in preparing and handling bills will also be charged to the Department. Charges to the Department by the Railroad shall be in accordance with applicable provisions of the Federal-Aid Policy Guide, Title 23 Subchapter B, Part 140I and Subchapter G, Part 646B issued by the Federal Highway Administration on December 9, 1991, including all current amendments. Flagging costs are subject to change. The above estimates of flagging costs are provided for information only and are not binding in any way.

(D) Verification

The Railroad flagman assigned to the project will be responsible for notifying the Department Engineer upon arrival at the job site on the first day (or as soon thereafter as possible) that flagging services begin and on the last day that he performs such services for each separate period that services are provided. The Department Engineer will document such notification and general flagging times for verification purposes in the project records. When requested, the Department Engineer will also sign the flagman's diary showing daily time spent and activity at the project site. Also if requested, the flagman will cooperate with the Department by submitting daily timesheets or signing the Department Engineer's diary showing daily time spent at the project site.

Railroad's flagman will electronically enter flagging time via Railroad's electronic billing system. Any complaints concerning flagman or flagmen must be resolved in a timely manner. If need for flagman or flagmen is questioned, please contact Railroad's System Engineer of Public Improvements at (404) 529-1641. All verbal complaints must be confirmed in writing by the Contractor within 5 working days with copy to the Department Engineer. Address all written correspondence to:

Office of Chief Engineer-Bridges & Structures
Attn: System Engineer of Public Improvements
Norfolk Southern Corporation
1200 Peachtree St. NE
Internal Box 142
Atlanta, GA 30309

HAUL ACROSS RAILROAD

Where the plans show or imply that materials of any nature must be hauled across the Railroad, unless the plans clearly show that the Department has included arrangements for such haul in its agreement with the Railroad, the Contractor will be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad. The Contractor will be required to bear all costs incidental to such crossings whether services are performed by the contractor's own forces or by Railroad personnel.

If the Contractor desires to haul across the Railroad for his convenience, the contractor shall make all of the necessary arrangements with the Railroad and the Company for a temporary crossing and shall bear all cost associated with construction and removal of the temporary crossing. The crossing shall only be used at times approved by the Engineer. The project will not be considered complete until all temporary crossing have been removed by the Contractor, unless directed by the Railroad or Company to leave the crossing installed. The Contractor shall be required to execute the Railroad and Company's standard private grade crossing agreement for each crossing installed. The Contractor shall have no claims whatsoever against the Railroad or the Department for denying any temporary crossing for the convenience of the Contractor.

No crossing may be established for use of the Contractor for transporting materials or equipment across the tracks of the Company unless specific authority for its installation, maintenance, necessary watching and flagging thereof and removal, all at the expense of the Contractor, is first obtained from the Railroad Engineer. The approval process for a temporary private crossing agreement executed between the Contractor and Railroad normally takes 90 days.

WORK FOR THE BENEFIT OF THE CONTRACTOR

All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans; included in the force account agreement between the Department, Company and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the Department, Company and/or the Railroad.

Should the Contractor desire any changes in addition to the above, then the Contractor shall make separate arrangements with the Railroad for same to be accomplished at the Contractor's expense. The Contractor shall notify the Department of agreements between the Railroad the and the Contractor for any work for the benefit of the Contractor.

COOPERATION AND DELAYS

It shall be the Contractor's responsibility to arrange a schedule with the Railroad for accomplishing stage construction of work to be done by Railroad crews. In arranging the schedule the contractor shall ascertain, from the Railroad, the lead time required for assembling crews and materials and shall make due allowance therefore. The Contractor shall cooperate with others in the construction of the project to the end that all work may be accomplished to the best advantage.

The Contractor shall insure that all work required to be completed by his forces prior to Railroad's crews schedule move in date is completed. Delays by the Contractor in meeting the schedule can result in delays in rescheduling Railroad crews and result in delays to the project. The Contractor shall have no claims whatsoever against the Railroad or the Department for delays as a result of rescheduling Railroad crews due the Contractor failing to meet his schedule.

No charge or claim of the Contractor against either the Department, Company or the Railroad will be allowed for hindrance or delay on account of railway traffic; any work done by the Railroad or other delays incident to or necessary for safe maintenance of railway traffic or for any delays due to compliance with these special provisions.

The Contractor's attention is called to the fact that neither the Department, Company nor Railroad assumes any responsibility for any work performed by others in connection with the construction of the project, and the Contractor shall have no claim whatsoever against the Department, Company or Railroad for any inconvenience, delay, or additional cost incurred by him on account of such operations by others.

TRAINMAN'S WALKWAYS

In areas along any existing tracks, on the side opposite of the track from where the work will be done; existing trainman walkways will be maintained at a distance not less than 10' from the centerline for the existing track. If the trainman's walkway does not exist, it will not be built or maintained unless shown on the plans. In areas of new construction along turnouts/switches, signals and derails, trainman walkways will be constructed and maintained not less than 10' from the centerline of the track. The trainman's walkway will extend from the point of switch through the derail. The trainman's walkway is an unobstructed continuous space suitable for the trainman to walk along the side of trains. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while the Railway's protective service is provided shall be removed before the close of each work day. If there is any excavation near the walkway, a handrail, with 10'-0" minimum clearance from centerline of track, shall be placed.

CERTIFICATION FOR FEDERAL-AID CONTRACTS:

(3-21-90)

SP1 G85

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

- (A) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (B) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, *Disclosure Form to Report Lobbying*, in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by *Section 1352, Title 31, U.S. Code*. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

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

U.S. DEPARTMENT OF TRANSPORTATION HOTLINE:

(11-22-94)

108-5

SP1 G100

To report bid rigging activities call: **1-800-424-9071**

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

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

SUBSURFACE INFORMATION:

(7-1-95)

450

SP1 G112 D

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

LOCATING EXISTING UNDERGROUND UTILITIES:

(3-20-12)

105

SP1 G115

Revise the *2012 Standard Specifications* as follows:

Page 1-43, Article 105-8, line 28, after the first sentence, add the following:

Identify excavation locations by means of pre-marking with white paint, flags, or stakes or provide a specific written description of the location in the locate request.

RESOURCE CONSERVATION:

(5-21-13)

104-13

SP1 G118

In accordance with North Carolina Executive Order 156, NCGS 130A-309.14(2), and NCGS 136-28.8, it is the policy of the Department to aid in the reduction of materials that become a part of our solid waste stream, to divert materials from landfills, and to find ways to recycle and reuse materials for the benefit of the Citizens of North Carolina.

Initiate, develop and use products and construction methods that incorporate the use of recycled or solid waste products in accordance with Article 104-13 of the *2012 Standard Specifications*. Report the quantities of reused or recycled materials either incorporated in the project or diverted from landfills on the Project Construction Reuse and Recycling Reporting Form.

A location-based tool for finding local recycling facilities and the Project Construction Reuse and Recycling Reporting Form are available at:

<http://connect.ncdot.gov/resources/Environmental/Pages/North-Carolina-Recycling-Locations.aspx>

DOMESTIC STEEL:

(4-16-13)

106

SP1 G120

Revise the *2012 Standard Specifications* as follows:

Page 1-49, Subarticle 106-1(B) Domestic Steel, lines 2-7, replace the first paragraph with the following:

All steel and iron products that are permanently incorporated into this project shall be produced in the United States except minimal amounts of foreign steel and iron products may be used provided the combined material cost of the items involved does not exceed 0.1% of the total amount bid for the entire project or \$2,500, whichever is greater. If invoices showing the cost of the material are not provided, the amount of the bid item involving the foreign material will be used for calculations. This minimal amount of foreign produced steel and iron products permitted for use is not applicable to high strength fasteners. Domestically produced high strength fasteners are required.

MAINTENANCE OF THE PROJECT:

(11-20-07) (Rev. 1-17-12)

104-10

SP1 G125

Revise the *2012 Standard Specifications* as follows:

Page 1-35, Article 104-10 Maintenance of the Project, line 25, add the following after the first sentence of the first paragraph:

All guardrail/guiderail within the project limits shall be included in this maintenance.

Page 1-35, Article 104-10 Maintenance of the Project, line 30, add the following as the last sentence of the first paragraph:

The Contractor shall perform weekly inspections of guardrail and guiderail and shall report damages to the Engineer on the same day of the weekly inspection. *Where damaged guardrail or guiderail is repaired or replaced as a result of maintaining the project in accordance with this article, such repair or replacement shall be performed within 7 consecutive calendar days of such inspection report.*

Page 1-35, Article 104-10 Maintenance of the Project, lines 42-44, replace the last sentence of the last paragraph with the following:

The Contractor will not be directly compensated for any maintenance operations necessary, except for maintenance of guardrail/guiderail, as this work will be considered incidental to the work covered by the various contract items. The provisions of Article 104-7, Extra Work, and Article 104-8, Compensation and Record Keeping will apply to authorized maintenance of guardrail/guiderail. Performance of weekly inspections of guardrail/guiderail, and the damage reports required as described above, will be considered to be an incidental part of the work being paid for by the various contract items.

TWELVE MONTH GUARANTEE:

(7-15-03)

108

SP1 G145

- (A) The Contractor shall guarantee materials and workmanship against latent and patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve months following the date of final acceptance of the work for maintenance and shall replace such defective materials and workmanship without cost to the Department. The Contractor will not be responsible for damage due to faulty design, normal wear and tear, for negligence on the part of the Department, and/or for use in excess of the design.
- (B) Where items of equipment or material carry a manufacturer's guarantee for any period in excess of twelve months, then the manufacturer's guarantee shall apply for that particular piece of equipment or material. The Department's first remedy shall be through the manufacturer although the Contractor is responsible for invoking the warranted repair work with the manufacturer. The Contractor's responsibility shall be limited to the term of the manufacturer's guarantee. NCDOT would be afforded the same warranty as provided by the Manufacturer.

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

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

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

GIFTS FROM VENDORS AND CONTRACTORS:

(12-15-09)

107-1

SP1 G152

By Executive Order 24, issued by Governor Perdue, and *N.C.G.S. § 133-32*, it is unlawful for any vendor or contractor (i.e. architect, bidder, contractor, construction manager, design professional, engineer, landlord, offeror, seller, subcontractor, supplier, or vendor), to make gifts or to give favors to any State employee of the Governor's Cabinet Agencies (i.e. Administration, Commerce, Correction, Crime Control and Public Safety, Cultural Resources, Environment and Natural Resources, Health and Human Services, Juvenile Justice and Delinquency Prevention, Revenue, Transportation, and the Office of the Governor). This prohibition covers those vendors and contractors who:

- (A) Have a contract with a governmental agency; or
- (B) Have performed under such a contract within the past year; or
- (C) Anticipate bidding on such a contract in the future.

For additional information regarding the specific requirements and exemptions, vendors and contractors are encouraged to review Executive Order 24 and *N.C.G.S. § 133-32*.

Executive Order 24 also encouraged and invited other State Agencies to implement the requirements and prohibitions of the Executive Order to their agencies. Vendors and contractors should contact other State Agencies to determine if those agencies have adopted Executive Order 24.

EROSION AND SEDIMENT CONTROL/STORMWATER CERTIFICATION:

(1-16-07) (Rev 9-18-12)

105-16, 225-2, 16

SP1 G180

General

Schedule and conduct construction activities in a manner that will minimize soil erosion and the resulting sedimentation and turbidity of surface waters. Comply with the requirements herein regardless of whether or not a National Pollution discharge Elimination System (NPDES) permit for the work is required.

Establish a chain of responsibility for operations and subcontractors' operations to ensure that the *Erosion and Sediment Control/Stormwater Pollution Prevention Plan* is implemented and maintained over the life of the contract.

- (A) *Certified Supervisor* - Provide a certified Erosion and Sediment Control/Stormwater Supervisor to manage the Contractor and subcontractor operations, insure compliance with Federal, State and Local ordinances and regulations, and manage the Quality Control Program.
- (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.
- (D) *Certified Designer* - Provide a certified designer for the design of the erosion and sediment control/stormwater component of reclamation plans and, if applicable, for the design of the project erosion and sediment control/stormwater plan.

Roles and Responsibilities

- (A) *Certified Erosion and Sediment Control/Stormwater Supervisor* - The Certified Supervisor shall be Level II and responsible for ensuring the erosion and sediment control/stormwater plan is adequately implemented and maintained on the project and for conducting the quality control program. The Certified Supervisor shall be on the project within 24 hours notice from initial exposure of an erodible surface to the project's final acceptance. Perform the following duties:
 - (1) *Manage Operations* - Coordinate and schedule the work of subcontractors so that erosion and sediment control/stormwater measures are fully executed for each operation and in a timely manner over the duration of the contract.
 - (a) Oversee the work of subcontractors so that appropriate erosion and sediment control/stormwater preventive measures are conformed to at each stage of the work.
 - (b) Prepare the required National Pollutant Discharge Elimination System (NPDES) Inspection Record and submit to the Engineer.
 - (c) Attend all weekly or monthly construction meetings to discuss the findings of the NPDES inspection and other related issues.
 - (d) Implement the erosion and sediment control/stormwater site plans requested.
 - (e) Provide any needed erosion and sediment control/stormwater practices for the 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.
 - (f) Acquire applicable permits and comply with requirements for borrow pits, dewatering, and any temporary work conducted by the Contractor in jurisdictional areas.

- (g) Conduct all erosion and sediment control/stormwater work in a timely and workmanlike manner.
 - (h) Fully perform and install erosion and sediment control/stormwater work prior to any suspension of the work.
 - (i) Coordinate with Department, Federal, State and Local Regulatory agencies on resolution of erosion and sediment control/stormwater issues due to the Contractor's operations.
 - (j) Ensure that proper cleanup occurs from vehicle tracking on paved surfaces or any location where sediment leaves the Right-of-Way.
 - (k) Have available a set of erosion and sediment control/stormwater plans that are initialed and include the installation date of Best Management Practices. These practices shall include temporary and permanent groundcover and be properly updated to reflect necessary plan and field changes for use and review by Department personnel as well as regulatory agencies.
- (2) Requirements set forth under the NPDES Permit - The Department's NPDES Stormwater permit (NCS000250) outlines certain objectives and management measures pertaining to construction activities. The permit references *NCG010000, General Permit to Discharge Stormwater* under the NPDES, and states that the Department shall incorporate the applicable requirements into its delegated Erosion and Sediment Control Program for construction activities disturbing one or more acres of land. The Department further incorporates these requirements on all contracted bridge and culvert work at jurisdictional waters, regardless of size. Some of the requirements are, but are not limited to:
- (a) Control project site waste to prevent contamination of surface or ground waters of the state, i.e. from equipment operation/maintenance, construction materials, concrete washout, chemicals, litter, fuels, lubricants, coolants, hydraulic fluids, any other petroleum products, and sanitary waste.
 - (b) Inspect erosion and sediment control/stormwater devices and stormwater discharge outfalls at least once every 7 calendar days, twice weekly for construction related *Federal Clean Water Act, Section 303(d)* impaired streams with turbidity violations, and within 24 hours after a significant rainfall event of 0.5 inch that occurs within a 24 hour period.
 - (c) Maintain an onsite rain gauge or use the Department's Multi-Sensor Precipitation Estimate website to maintain a daily record of rainfall amounts and dates.
 - (d) Maintain erosion and sediment control/stormwater inspection records for review by Department and Regulatory personnel upon request.
 - (e) Implement approved reclamation plans on all borrow pits, waste sites and staging areas.
 - (f) Maintain a log of turbidity test results as outlined in the Department's Procedure for Monitoring Borrow Pit Discharge.
 - (g) Provide secondary containment for bulk storage of liquid materials.

- (h) Provide training for employees concerning general erosion and sediment control/stormwater awareness, the Department's NPDES Stormwater Permit NCS000250 requirements, and the applicable requirements of the *General Permit, NCG010000*.
 - (i) Report violations of the NPDES permit to the Engineer immediately who will notify the Division of Water Quality Regional Office within 24 hours of becoming aware of the violation.
- (3) Quality Control Program - Maintain a quality control program to control erosion, prevent sedimentation and follow provisions/conditions of permits. The quality control program shall:
 - (a) Follow permit requirements related to the Contractor and subcontractors' construction activities.
 - (b) Ensure that all operators and subcontractors on site have the proper erosion and sediment control/stormwater certification.
 - (c) Notify the Engineer when the required certified erosion and sediment control/stormwater personnel are not available on the job site when needed.
 - (d) Conduct the inspections required by the NPDES permit.
 - (e) Take corrective actions in the proper timeframe as required by the NPDES permit for problem areas identified during the NPDES inspections.
 - (f) Incorporate erosion control into the work in a timely manner and stabilize disturbed areas with mulch/seed or vegetative cover on a section-by-section basis.
 - (g) Use flocculants approved by state regulatory authorities where appropriate and where required for turbidity and sedimentation reduction.
 - (h) Ensure proper installation and maintenance of temporary erosion and sediment control devices.
 - (i) Remove temporary erosion or sediment control devices when they are no longer necessary as agreed upon by the Engineer.
 - (j) The Contractor's quality control and inspection procedures shall be subject to review by the Engineer. Maintain NPDES inspection records and make records available at all times for verification by the Engineer.
- (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:
 - (1) Foreman in charge of grading activities
 - (2) Foreman in charge of bridge or culvert construction over jurisdictional areas
 - (3) 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 onsite 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, Level I Certified Installer for each of the following erosion and sediment control/stormwater crew:

- (1) Seeding and Mulching
- (2) Temporary Seeding
- (3) Temporary Mulching
- (4) Sodding
- (5) Silt fence or other perimeter erosion/sediment control device installations
- (6) Erosion control blanket installation
- (7) Hydraulic tackifier installation
- (8) Turbidity curtain installation
- (9) Rock ditch check/sediment dam installation
- (10) Ditch liner/matting installation
- (11) Inlet protection
- (12) Riprap placement
- (13) Stormwater BMP installations (such as but not limited to level spreaders, retention/detention devices)
- (14) Pipe installations within jurisdictional areas

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

(D) *Certified Designer* - Include the certification number of the Level III-B Certified Designer on the erosion and sediment control/stormwater component of all reclamation plans and if applicable, the certification number of the Level III-A Certified Designer on the design of the project erosion and sediment control/stormwater plan.

Preconstruction Meeting

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

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.

Revocation or Suspension of Certification

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

The Chief Engineer may recommend suspension or permanent revocation of certification due to the following:

- (A) Failure to adequately perform the duties as defined within this certification provision.
- (B) Issuance of an ICA, NOV, or Cease and Desist Order.
- (C) Failure to fully perform environmental commitments as detailed within the permit conditions and specifications.
- (D) Demonstration of erroneous documentation or reporting techniques.
- (E) Cheating or copying another candidate's work on an examination.
- (F) Intentional falsification of records.
- (G) Directing a subordinate under direct or indirect supervision to perform any of the above actions.
- (H) Dismissal from a company for any of the above reasons.
- (I) Suspension or revocation of one's certification by another entity.

Suspension or revocation of a certification will be sent by certified mail to the certificant and the Corporate Head of the company that employs the certificant.

A certificant has the right to appeal any adverse action which results in suspension or permanent revocation of certification by responding, in writing, to the Chief Engineer within 10 calendar days after receiving notice of the proposed adverse action.

Chief Engineer
1536 Mail Service Center
Raleigh, NC 27699-1536

Failure to appeal within 10 calendar days will result in the proposed adverse action becoming effective on the date specified on the certified notice. Failure to appeal within the time specified will result in a waiver of all future appeal rights regarding the adverse action taken. The certificant will not be allowed to perform duties associated with the certification during the appeal process.

The Chief Engineer will hear the appeal and make a decision within 7 days of hearing the appeal. Decision of the Chief Engineer will be final and will be made in writing to the certificant.

If a certification is temporarily suspended, the certificant shall pass any applicable written examination and any proficiency examination, at the conclusion of the specified suspension period, prior to having the certification reinstated.

Measurement and Payment

Certified Erosion and Sediment Control/Stormwater Supervisor, Certified Foremen, Certified Installers and Certified Designer will be incidental to the project for which no direct compensation will be made.

PROCEDURE FOR MONITORING BORROW PIT DISCHARGE:

(2-20-07) (Rev. 3-20-13)

105-16, 230, 801

SP1 G181

Water discharge from borrow pit sites shall not cause surface waters to exceed 50 NTUs (nephelometric turbidity unit) in streams not designated as trout waters and 10 NTUs in streams, lakes or reservoirs designated as trout waters. For lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTUs. If the turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased.

If during any operating day, the downstream water quality exceeds the standard, the Contractor shall do all of the following:

- (A) Either cease discharge or modify the discharge volume or turbidity levels to bring the downstream turbidity levels into compliance, or
- (B) Evaluate the upstream conditions to determine if the exceedance of the standard is due to natural background conditions. If the background turbidity measurements exceed the standard, operation of the pit and discharge can continue as long as the stream turbidity levels are not increased due to the discharge.
- (C) Measure and record the turbidity test results (time, date and sampler) at all defined sampling locations 30 minutes after startup and at a minimum, one additional sampling of all sampling locations during that 24-hour period in which the borrow pit is discharging.
- (D) Notify DWQ within 24 hours of any stream turbidity standard exceedances that are not brought into compliance.

During the Environmental Assessment required by Article 230-4 of the *2012 Standard Specifications*, the Contractor shall define the point at which the discharge enters into the State's surface waters and the appropriate sampling locations. Sampling locations shall include points upstream and downstream from the point at which the discharge enters these waters. Upstream sampling location shall be located so that it is not influenced by backwater conditions and represents natural background conditions. Downstream sampling location shall be located at the point where complete mixing of the discharge and receiving water has occurred.

The discharge shall be closely monitored when water from the dewatering activities is introduced into jurisdictional wetlands. Any time visible sedimentation (deposition of sediment) on the wetland surface is observed, the dewatering activity will be suspended until turbidity levels in the stilling basin can be reduced to a level where sediment deposition does not occur. Staining of wetland surfaces from suspended clay particles, occurring after evaporation or infiltration, does not constitute sedimentation. No activities shall occur in wetlands that adversely affect the functioning of a wetland. Visible sedimentation will be considered an indication of possible adverse impacts on wetland use.

The Engineer will perform independent turbidity tests on a random basis. These results will be maintained in a log within the project records. Records will include, at a minimum, turbidity test results, time, date and name of sampler. Should the Department's test results exceed those of the Contractor's test results, an immediate test shall be performed jointly with the results superseding the previous test results of both the Department and the Contractor.

The Contractor shall use the *NCDOT Turbidity Reduction Options for Borrow Pits Matrix*, available at http://www.ncdot.gov/doh/operations/dp_chief_eng/roadside/fieldops/downloads/Files/TurbidityReductionOptionSheet.pdf to plan, design, construct, and maintain BMPs to address water quality standards. Tier I Methods include stilling basins which are standard compensatory BMPs. Other Tier I methods are noncompensatory and shall be used when needed to meet the stream turbidity standards. Tier II Methods are also noncompensatory and are options that may be needed for protection of rare or unique resources or where special environmental conditions exist at the site which have led to additional requirements being placed in the DWQ's 401 Certifications and approval letters, Isolated Wetland Permits, Riparian Buffer Authorization or a DOT Reclamation Plan's Environmental Assessment for the specific site. Should the Contractor exhaust all Tier I Methods on a site exclusive of rare or unique resources or special environmental conditions, Tier II Methods may be required by regulators on a case by case basis per supplemental agreement.

The Contractor may use cation exchange capacity (CEC) values from proposed site borings to plan and develop the bid for the project. CEC values exceeding 15 milliequivalents per 100 grams of soil may indicate a high potential for turbidity and should be avoided when dewatering into surface water is proposed.

No additional compensation for monitoring borrow pit discharge will be paid.

SUPPLEMENTAL CONTRACTOR EROSION CONTROL RESPONSIBILITIES:

(2-19-13)

SP1 G182

The Contractor shall be required to install and maintain erosion control devices and provide temporary and eventual permanent stabilization to disturbed areas until the final completion of the project contract as directed. In addition, the Contractor shall adhere to the requirements of the Erosion and Sediment Control/Stormwater Certification provided elsewhere in this contract until completion of the project. After the Contractor has completed the grading work and while Norfolk Southern's crews are installing the new track, the Contractor shall maintain erosion control responsibilities and work will continue to be required and not limited to, monitoring erosion control devices on a weekly basis and after each rainfall that equals or exceeds 0.5 inches, NPDES documentation, installation and maintenance of additional erosion control devices, providing temporary groundcover, and establishment of permanent vegetation on disturbed slopes.

Payment for installation and maintenance of temporary erosion control measures and providing temporary and permanent stabilization will be paid for at the appropriate contract unit price for the work. Mobilization payment for this work shall be paid as described in "Supplemental Response for Erosion Control." No additional payment shall be made for these supplemental responsibilities and work.

SUPPLEMENTAL RESPONSE FOR EROSION CONTROL:

(2-19-13)

SP1 G183

Description

Furnish the labor, materials, tools and equipment necessary to move personnel, equipment, and supplies to the project necessary for the pursuit of any or all of the erosion control responsibilities of the Contractor. This provision will only be applicable after the Contractor has completed all of his work, with the exception of maintenance and removal of erosion control, and has demobilized his work force while waiting for NSR to complete track construction. Payment will only be made for occurrences where the contractor mobilizes men and equipment to perform necessary erosion control measures as required by the Department's Engineer.

Construction Methods

Contractor shall perform an erosion control action as described in, but not limited to, the NPDES Inspection Form SPPP30. Each erosion control action may include one or more of the work items on the form, or a separate action that is the primary responsibility of the Contractor.

Measurement and Payment

Supplemental Response for Erosion Control will be measured and paid for by counting the actual number of times the Contractor moves onto the project, including borrow and waste sites, and satisfactorily completes an erosion control action described in Form 1675. The provisions of Article 104-5 of the *Standard Specifications* will not apply to this item of work.

Payment will be made under:

Pay Item	Pay Unit
Supplemental Response for Erosion Control	Each

EMPLOYMENT:

(11-15-11) (Rev. 1-17-12)

108, 102

SP1 G184

Revise the *2012 Standard Specifications* as follows:

Page 1-20, Subarticle 102-15(O), delete and replace with the following:

(O) Failure to restrict a former Department employee as prohibited by Article 108-5.

Page 1-65, Article 108-5 Character of Workmen, Methods, and Equipment, line 32, delete all of line 32, the first sentence of the second paragraph and the first word of the second sentence of the second paragraph.

STATE HIGHWAY ADMINISTRATOR TITLE CHANGE:

(9-18-12)

SP1 G185

Revise the *2012 Standard Specifications* as follows:

Replace all references to "State Highway Administrator" with "Chief Engineer".

FIELD OFFICE (Lump Sum):

(6-1-07)

SPI 8-1

Description

This work consists of furnishing, erecting, equipping, and maintaining a field office for the exclusive use of Department Engineers and Inspectors at a location on the project approved by the Engineer. Provide a field office that complies with the current ADA Design and Accessibility Standards, the National Electric Code, local, state, and federal regulations, and the following requirements.

Procedures

The field office and equipment will remain the property of the Contractor upon completion of the contract. The field office shall be separated from buildings and trailers used by the Contractor and shall be erected and functional as an initial operation. Failure to have the field office functional when work first begins on the project will result in withholding payment of the Contractor's monthly progress estimate. The field office shall be operational throughout the duration of the project and shall be removed upon completion and final acceptance of the project.

Provide a field office that is weatherproof, tightly floored and roofed, constructed with an air space above the ceiling for ventilation, supported above the ground, has a width of at least 10 feet, and the floor-to-ceiling height that is at least 7 feet 6 inches. Provide inside walls and a ceiling constructed of plywood, masonite, gypsum board, or other suitable materials. Have the exterior walls, ceiling, and floor insulated.

Provide a field office with at least 500 square feet of floor space and that is equipped with the following:

<u>Number</u>	<u>Item</u>
1	Double-pedestal desk (approximately 60 by 34 inches, at least 2,000 square inches).
1	Plan and drafting table (approximately 30 by 96 inches) with adjustable stool.
1	Computer table at least 48 by 30 by 29 inches.
1	Plan rack for 24 by 36 inch drawings with 6 plan clamps.
1	Printing calculator.
2	2-drawer fire protection file, 15 inch drawer width, minimum UL rating of Class 350.
6	Office chairs with at least two chairs having casters.
2	Wastebaskets.
1	Pencil sharpener.
1	Copy machine (8 inch x 11 inch copies)
1	Telephone.
1	Fax Machine.
1	Answering machine.
2	Utility vehicles

Windows and Doors

Provide a field office with at least three windows with blinds, each having an area of at least 540 square inches, capable of being easily opened and secured from the inside and having at least two exterior passage doors. Provide doors at least 30 inches in width and 78 inches in height. Provide screens for windows and doors. Equip exterior passage doors with locks, and furnish at least two keys to the Engineer.

Steps

Provide accessibility in compliance with the current ADA Design and Accessibility Standards, and the State Building Code and maintain them free from obstructions.

Storage Facility For Nuclear Gage

Furnish the field office with an outside storage facility for the Department's nuclear gage. The storage facility shall not be located within 10 feet of any other structure including the field office.

Lighting, Heating, and Air Conditioning

The field office shall have satisfactory lighting, electrical outlets, heating equipment, an exhaust fan, and an air conditioner connected to an operational power source. Provide at least one of the light fixtures that is a fluorescent light situated over the plan and drafting table. Furnish electrical current and fuel for heating equipment.

Fire Extinguishers

Furnish and maintain one fire extinguisher for each required exterior passage door. Fire extinguisher may be chemical or dry powder. UL Classification 10-B:C (minimum), suitable for Type A:B:C: fires. Mount and maintain fire extinguishers in accordance with OSHA Safety and Health Standards.

Toilets

Provide a toilet conforming to the requirements of the state and local boards of health or other bodies or courts having jurisdiction in the area. When separate facilities for men and women are not available, place a sign with the words "Rest Room" (with letters at least 1 inch in height) over the doorway, and provide an adequate positive locking system on the inside of the doorway. Maintain responsibility for the water and sewer connections or the installation and connection of a water well and septic tank and drain field. These facilities shall conform to all local and state permits.

Revised 6-11-13

C203160 (C-4901A)

57

Davidson County

Utilities

Except for telephone service, make necessary utility connections, maintain utilities, pay utility service fees and bills, and handle final disconnection of utilities. Furnish a telephone in each field office and permit the work necessary to install it.

Storage Facility for Test Equipment

Provide the field office with a storage facility, separate from the office for storage of test equipment, other than the nuclear gage. Provide a facility that has at least 64 square feet of floor space, is weatherproof, tightly floored and roofed, and has a tamper resistant key operated lock.

Utility Vehicles

Furnish two (2) gasoline-powered side by side utility vehicles, with a two seat minimum and utility bed. The contractor shall maintain and fuel the utility vehicles in accordance with the manufacturer's recommendations and properly secure them when not in use.

Miscellaneous Items

The field office shall also include the following:

1. A certification that the office is free of asbestos and other hazardous materials.
2. A broom, dust pan, mop and bucket, and general cleaning supplies.
3. Provide and maintain an all weather parking area for six vehicles, including graveled access to the paved surface.

Measurement and Payment

Payment at the contract lump sum bid price for *Field Office* will be full compensation for all work covered by this provision including but not limited to furnishing, erecting, maintaining, and removing the field office as outlined in this provision.

Installation and service fees for the telephone will be paid for by the Department.

Payment will be made under:

Pay Item

Field Office

Pay Unit

Lump Sum

COOPERATION BETWEEN CONTRACTORS:

(7-1-95)

105-7

SP1 G133

The Contractor's attention is directed to Article 105-7 of the *2012 Standard Specifications*.

There are two projects (C-4901B and C-4901C) that are currently under construction within the limits of this project that will not be complete prior to letting of this project.

The Contractor on this project shall cooperate with the Contractors working within or adjacent to the limits of this project to the extent that the work can be carried out to the best advantage of all concerned.

C203160 (C-4901A)

57A

Davidson County *Revised 6-11-13*

NOTES TO CONTRACTOR:

1. NCRR is acquiring additional Right of Way between stations -M1- 7577+00 and -M1- 7607+00. It is anticipated that this additional right of way will not be available until January 1, 2014. The Contractor's work within these station limits must be maintained within the existing NCRR corridor. The Engineer will notify the Contractor of the completion of this property acquisition.
2. Monthly construction meetings are expected to be held the second week of each month in the timeframe between Wednesday afternoon through Friday. The Contractor shall make the appropriate personnel available to attend during this timeframe.

PROJECT SPECIAL PROVISIONS**ROADWAY****CLEARING AND GRUBBING - METHOD III:**

(4-6-06) (Rev. 1-17-12)

200

SP2 R02B

Perform clearing on this project to the limits established by Method "III" shown on Standard Drawing No. 200.03 of the *2012 Roadway Standard Drawings*.

BURNING RESTRICTIONS:

(7-1-95)

200, 210, 215

SP2 R05

Open burning is not permitted on any portion of the right-of-way limits established for this project. Do not burn the clearing, grubbing or demolition debris designated for disposal and generated from the project at locations within the project limits, off the project limits or at any waste or borrow sites in this county. Dispose of the clearing, grubbing and demolition debris by means other than burning, according to state or local rules and regulations.

SURCHARGES AND WAITING PERIODS:

(2-17-04) (Rev. 2-19-13)

235

SP2 R65(Rev)

Revise the *2012 Standard Specifications* as follows:

Page 2-22, Article 235-1 DESCRIPTION, add the following:

Surcharges and waiting periods may be required for embankments and retaining walls to minimize and control the effects of settlement on structures, approach slabs, pavements, pipes, utilities, etc.

Page 2-24, Article 235-3 CONSTRUCTION METHODS, add the following:

(E) Surcharges and Waiting Periods

Place surcharges at locations shown in the plans. Unless required otherwise in the contract, surcharge embankments after embankments are constructed to the grade and cross section shown in the plans. Construct surcharges with side slopes as directed, 2:1 (H:V) end slopes outside of surcharge limits and surcharge heights shown in the plans. Place and compact surcharge material in accordance with Subarticles 235-3(B) and 235-3(C). Construct and maintain adequate drainage of surface runoff to prevent erosion of surcharge material.

Waiting period durations are in accordance with the contract and as directed. Surcharge waiting periods apply to surcharge locations shown in the plans and begin after surcharges are constructed to the height shown in the plans.

Unless required otherwise in the contract, bridge waiting periods are required in accordance with the following:

- (1) Apply to bridge embankments and retaining walls within 100 ft of end bent and bent locations shown in the plans and
- (2) Begin after bridge embankments and retaining walls are constructed to the elevations noted in the plans.

Unless required otherwise in the contract, embankment waiting periods are required in accordance with the following:

- (1) Apply to embankment locations shown in the plans and retaining walls for embankments with waiting periods and
- (2) Begin after embankments and retaining walls are constructed to the elevations, grade and cross section shown in the plans.

Except for maintaining embankments, do not perform any work on embankments or structures with waiting periods until waiting periods end unless otherwise approved. Place and compact additional material in accordance with Subarticles 235-3(B) and 235-3(C) to maintain embankment grade elevations during waiting periods. Remove surcharges to the grade and cross section shown in the plans after surcharge waiting periods end.

Page 2-24, Article 235-5 MEASUREMENT AND PAYMENT, add the following:

Borrow Excavation for surcharge material and additional material for maintaining embankment grade elevations will be measured and paid in accordance with Article 230-5. *Unclassified Excavation* for surcharge material, additional material for maintaining embankment grade elevations and removing surcharges will be measured and paid in accordance with Article 225-7. When there is no pay item for *Borrow Excavation* or *Unclassified Excavation* in the contract, surcharge and additional material and removing surcharges will be included in the lump sum payment for *Grading*.

SELECT GRANULAR MATERIAL:

(3-16-10) (Rev. 1-17-12)

265

SP2 R80(Rev)

For those locations where Class III Select Material is required revise the *2012 Standard Specifications* as follows

Page 2-28, Article 265-2 MATERIALS, add the following:

Use only Class III select material for select granular material.

Page 2-28, Article 265-4 MEASUREMENT AND PAYMENT, lines 13-30, replace all occurrences of *Select Granular Material* with *Select Granular Material, Class III*.

Page 2-28, Article 265-4 MEASUREMENT AND PAYMENT, after line 31, delete the pay item and replace with the following:

Payment will be made under:

Pay Item

Select Granular Material, Class III

Pay Unit

Cubic Yard

C203160 (C-4901A)

60

Davidson County

PIPE INSTALLATION:

(11-20-12)

300

SP3 R01

Revise the *2012 Standard Specifications* as follows:

Page 3-1, Article 300-2, Materials, line 23-24, replace sentence with:

Provide foundation conditioning geotextile in accordance with Section 1056 for Type 4 geotextile.

FLOWABLE FILL:

(9-17-02) (Rev 1-17-12)

300, 340, 450, 1000, 1530, 1540, 1550

SP3 R30

Description

This work consists of all work necessary to place flowable fill in accordance with these provisions, the plans, and as directed.

Materials

Refer to Division 10 of the *2012 Standard Specifications*.

Item

Flowable Fill

Section

1000-6

Construction Methods

Discharge flowable fill material directly from the truck into the space to be filled, or by other approved methods. The mix may be placed full depth or in lifts as site conditions dictate. The Contractor shall provide a method to plug the ends of the existing pipe in order to contain the flowable fill.

Measurement and Payment

At locations where flowable fill is called for on the plans and a pay item for flowable fill is included in the contract, *Flowable Fill* will be measured in cubic yards and paid as the actual number of cubic yards that have been satisfactorily placed and accepted. Such price and payment will be full compensation for all work covered by this provision including, but not limited to, the mix design, furnishing, hauling, placing and containing the flowable fill.

Payment will be made under:

Pay Item

Flowable Fill

Pay Unit

Cubic Yard

ASPHALT PAVEMENTS - SUPERPAVE:

(6-19-12) (Rev. 4-16-13)

605, 609, 610

SP6 R01

Revise the *2012 Standard Specifications* as follows:

Page 6-3, Article 605-7 APPLICATION RATES AND TEMPERATURES, replace this article, including Table 601-1, with the following:

Apply tack coat uniformly across the existing surface at target application rates shown in Table 605-1.

**TABLE 605-1
APPLICATION RATES FOR TACK COAT**

Existing Surface	Target Rate (gal/sy)
	Emulsified Asphalt
New Asphalt	0.04 ± 0.01
Oxidized or Milled Asphalt	0.06 ± 0.01
Concrete	0.08 ± 0.01

Apply tack coat at a temperature within the ranges shown in Table 605-2. Tack coat shall not be overheated during storage, transport or at application.

**TABLE 605-2
APPLICATION TEMPERATURE FOR TACK COAT**

Asphalt Material	Temperature Range
Asphalt Binder, Grade PG 64-22	350 - 400°F
Emulsified Asphalt, Grade RS-1H	130 - 160°F
Emulsified Asphalt, Grade CRS-1	130 - 160°F
Emulsified Asphalt, Grade CRS-1H	130 - 160°F
Emulsified Asphalt, Grade HFMS-1	130 - 160°F
Emulsified Asphalt, Grade CRS-2	130 - 160°F

Page 6-7, Article 609-3 FIELD VERIFICATION OF MIXTURE AND JOB MIX FORMULA ADJUSTMENTS, lines 35-37, delete the second sentence of the second paragraph.

Page 6-18, Article 610-1 DESCRIPTION, lines 40-41, delete the last sentence of the last paragraph.

Page 6-19, Subarticle 610-3(A) Mix Design-General, line 5, add the following as the first paragraph:

Warm mix asphalt (WMA) is allowed for use at the Contractor's option in accordance with the NCDOT Approved Products List for WMA Technologies available at:

<https://connect.ncdot.gov/resources/Materials/MaterialsResources/WMA%20Approved%20Lists.pdf>

Page 6-21, Subarticle 610-3(C) Job Mix Formula (JMF), replace Table 610-1 with the following:

TABLE 610-1		
DESIGN MIXING TEMPERATURE AT THE ASPHALT PLANT^A		
Binder Grade	HMA JMF Temperature	WMA JMF Temperature Range
PG 64-22	300°F	225 - 275°F
PG 70-22	315°F	240 - 290°F
PG 76-22	335°F	260 - 310°F

- A.** The mix temperature, when checked in the truck at the roadway, shall be within plus 15° and minus 25° of the temperature specified on the JMF.

Page 6-21, Subarticle 610-3(C) Job Mix Formula (JMF), lines 4-6, delete first sentence of the second paragraph. Line 7, in the second sentence of the second paragraph, replace “275°F” with “275°F or greater.”

Page 6-22, Article 610-4 WEATHER, TEMPERATURE AND SEASONAL LIMITATIONS FOR PRODUCING AND PLACING ASPHALT MIXTURES, lines 15-17, replace the second sentence of the first paragraph with the following:

Do not place asphalt material when the air or surface temperatures, measured at the location of the paving operation away from artificial heat, do not meet Table 610-5.

Page 6-23, Article 610-4 WEATHER, TEMPERATURE AND SEASONAL LIMITATIONS FOR PRODUCING AND PLACING ASPHALT MIXTURES, replace Table 610-5 with the following:

TABLE 610-5	
PLACEMENT TEMPERATURES FOR ASPHALT	
Asphalt Concrete Mix Type	Minimum Surface and Air Temperature
B25.0B, C	35°F
I19.0B, C, D	35°F
SF9.5A, S9.5B	40°F
S9.5C, S12.5C	45°F
S9.5D, S12.5D	50°F

Page 6-26, Article 610-7 HAULING OF ASPHALT MIXTURE, lines 22-23, in the fourth sentence of the first paragraph replace “so as to overlap the top of the truck bed and” with “to”.

C203160 (C-4901A)

63

Davidson County

ASPHALT BINDER CONTENT OF ASPHALT PLANT MIXES:

(11-21-00) (Rev. 7-17-12)

609

SP6 R15

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

Asphalt Concrete Base Course	Type B 25.0__	4.4%
Asphalt Concrete Intermediate Course	Type I 19.0__	4.8%
Asphalt Concrete Surface Course	Type S 4.75A	6.8%
Asphalt Concrete Surface Course	Type SA-1	6.8%
Asphalt Concrete Surface Course	Type SF 9.5A	6.7%
Asphalt Concrete Surface Course	Type S 9.5__	6.0%
Asphalt Concrete Surface Course	Type S 12.5__	5.6%

The actual asphalt binder content will be established during construction by the Engineer within the limits established in the *2012 Standard Specifications*.

PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX:

(11-21-00)

620

SP6 R25

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the *2012 Standard Specifications*.

The base price index for asphalt binder for plant mix is \$ **559.06** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **May 1, 2013**.

FINAL SURFACE TESTING NOT REQUIRED:

(5-18-04) (Rev. 5-15-12)

610

SP6 R45

Final surface testing is not required on this project.

MATERIALS:

(2-21-12) (Rev. 5-21-13)

1000, 1005, 1050, 1074, 1078, 1080, 1081, 1087, 1092

SP10 R01

Revise the *2012 Standard Specifications* as follows:**Page 10-1, Article 1000-1, DESCRIPTION, line 14, add the following:**

Use materials which do not produce a mottled appearance through rusting or other staining of the finished concrete surface.

Page 10-5, Table 1000-1, REQUIREMENTS FOR CONCRETE, replace with the following:

TABLE 1000-1 REQUIREMENTS FOR CONCRETE											
Class of Concrete	Min. Comp. Strength at 28 days	Maximum Water-Cement Ratio				Consistency Max. Slump		Cement Content			
		Air-Entrained Concrete		Non Air-Entrained Concrete		Vibrated	Non-Vibrated	Vibrated		Non-Vibrated	
		Rounded Aggregate	Angular Aggregate	Rounded Aggregate	Angular Aggregate			Min.	Max.	Min.	Max.
Units	psi					inch	inch	lb/cy	lb/cy	lb/cy	lb/cy
AA	4,500	0.381	0.426	-	-	3.5	-	639	715	-	-
AA Slip Form	4,500	0.381	0.426	-	-	1.5	-	639	715	-	-
Drilled Pier	4,500	-	-	0.450	0.450	-	5-7 dry 7-9 wet	-	-	640	800
A	3,000	0.488	0.532	0.550	0.594	3.5	4	564	-	602	-
B	2,500	0.488	0.567	0.559	0.630	2.5	4	508	-	545	-
B Slip Formed	2,500	0.488	0.567	-	-	1.5	-	508	-	-	-
Sand Light-weight	4,500	-	0.420	-	-	4	-	715	-	-	-
Latex Modified	3,000 7 day	0.400	0.400	-	-	6	-	658	-	-	-
Flowable Fill excavatable	150 max. at 56 days	as needed	as needed	as needed	as needed	-	Flow-able	-	-	40	100
Flowable Fill non-excavatable	125	as needed	as needed	as needed	as needed	-	Flow-able	-	-	100	as needed
Pavement	4,500 design, field 650 flexural, design only	0.559	0.559	-	-	1.5 slip form 3.0 hand place	-	526	-	-	-
Precast	See Table 1077-1	as needed	as needed	-	-	6	as needed	as needed	as needed	as needed	as needed
Prestress	per contract	See Table 1078-1	See Table 1078-1	-	-	8	-	564	as needed	-	-

Page 10-65, Article 1050-1, GENERAL, line 41, replace the first sentence with:

All fencing material and accessories shall meet Section 106.

Page 10-23, Table 1005-1, AGGREGATE GRADATION-COARSE AGGREGATE, replace with the following:

TABLE 1005-1 AGGREGATE GRADATION - COARSE AGGREGATE												
Std. Size #	Percentage of Total by Weight Passing											
	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#10	#16	#40	#200
4	100	90-100	20-55	0-15	-	0-5	-	-	-	-	-	A
46/7M	100	95-100	-	35-70	-	0-30	0-5	-	-	-	-	A
5	-	100	90-100	20-55	0-10	0-5	-	-	-	-	-	A
57	-	100	95-100	-	25-60	-	0-10	0-5	-	-	-	A
57M	-	100	95-100	-	25-45	-	0-10	0-5	-	-	-	A
6M	-	-	100	90-100	20-55	0-20	0-8	-	-	-	-	A
67	-	-	100	90-100	-	20-55	0-10	0-5	-	-	-	A
78M	-	-	-	100	98-100	75-100	20-45	0-15	-	-	-	A
14M	-	-	-	-	-	100	35-70	5-20	-	0-8	-	A
9	-	-	-	-	-	100	85-100	10-40	-	0-10	-	A
ABC	-	100	75-97	-	55-80	-	35-55	-	25-45	-	14-30	4-12 ^B
ABC (M)	-	100	75-100	-	45-79	-	20-40	-	0-25	-	-	0-12 ^B
Light-weight C	-	-	-	-	100	80-100	5-40	0-20	-	0-10	-	0-2.5
Remarks												
AST, Str. Concrete, Shoulder Drain, Sediment Control Stone												
AST, Concrete Pavement												
AST												
AST, Str. Concrete, Asphalt Plant Mix												
Asphalt Plant Mix, AST, Str. Conc, Weep Hole Drains												
AST, Weep Hole Drains, Asphalt Plant Mix, Str. Concrete												
AST												
Aggregate Base Course, Aggregate Stabilization												
Maintenance Stabilization												
AST												

- A. See Subarticle 1005-4(A).
 B. See Subarticle 1005-4(B).
 C. For Lightweight Aggregate used in Structural Concrete, see Subarticle 1014-2(E)(6).

Page 10-115, Subarticle 1074-7(B), Gray Iron Castings, lines 10-11, replace with the first two sentences with the following:

Supply gray iron castings meeting all facets of AASHTO M 306 excluding proof load. Proof load testing will only be required for new casting designs during the design process, and

conformance to M306 loading (40,000 lbs.) will be required only when noted on the design documents.

Page 10-126, Table 1078-1, REQUIREMENTS FOR CONCRETE, replace with the following:

**TABLE 1078-1
REQUIREMENTS FOR CONCRETE**

Property	28 Day Design Compressive Strength 6,000 psi or less	28 Day Design Compressive Strength greater than 6,000 psi
Maximum Water/Cementitious Material Ratio	0.45	0.40
Maximum Slump without HRWR	3.5"	3.5"
Maximum Slump with HRWR	8"	8"
Air Content (upon discharge into forms)	5 + 2%	5 + 2%

Page 10-151, Article 1080-4 Inspection and Sampling, lines 18-22, replace (B), (C) and (D) with the following:

- (B) At least 3 panels prepared as specified in 5.5.10 of AASHTO M 300, Bullet Hole Immersion Test.
- (C) At least 3 panels of 4"x6"x1/4" for the Elcometer Adhesion Pull Off Test, ASTM D4541.
- (D) A certified test report from an approved independent testing laboratory for the Salt Fog Resistance Test, Cyclic Weathering Resistance Test, and Bullet Hole Immersion Test as specified in AASHTO M 300.
- (E) A certified test report from an approved independent testing laboratory that the product has been tested for slip coefficient and meets AASHTO M253, Class B.

Page 10-162, Subarticle 1081-1(A) Classifications, lines 4-7, delete the second and third sentences of the description for Type 3A.

Page 10-162, Subarticle 1081-1(B) Requirements, lines 26-30, replace the second paragraph with the following:

For epoxy resin systems used for embedding dowel bars, threaded rods, rebar, anchor bolts and other fixtures in hardened concrete, the manufacturer shall submit test results showing that the bonding system will obtain 125% of the specified required yield strength of the fixture. Furnish certification that, for the particular bolt grade, diameter and embedment depth required, the anchor system will not fail by adhesive failure and that there is no movement of the anchor bolt. For certification and anchorage, use 3,000 psi as the minimum Portland cement concrete compressive strength used in this test. Use adhesives that meet Section 1081.

List the properties of the adhesive on the container and include density, minimum and maximum temperature application, setting time, shelf life, pot life, shear strength and compressive strength.

Page 10-169, Subarticle 1081-3(G) Anchor Bolt Adhesives, delete this subarticle.

Page 10-179, Subarticle 1087-4(A) Composition, lines 39-41, replace the third paragraph with the following:

All intermixed and drop-on glass beads shall not contain more than 75 ppm arsenic or 200 ppm lead.

Page 10-180, Subarticle 1087-4(B) Physical Characteristics, line 8, replace the second paragraph with the following:

All intermixed and drop-on glass beads shall comply with NCGS § 136-30.2 and 23 USC § 109(r).

Page 10-181, Subarticle 1087-7(A) Intermixed and Drop-on Glass Beads, line 24, add the following after the first paragraph:

Use X-ray Fluorescence for the normal sampling procedure for intermixed and drop-on beads, without crushing, to check for any levels of arsenic and lead. If any arsenic or lead is detected, the sample shall be crushed and repeat the test using X-ray Fluorescence. If the X-ray Fluorescence test shows more than a LOD of 5 ppm, test the beads using United States Environmental Protection Agency Method 6010B, 6010C or 3052 for no more than 75 ppm arsenic or 200 ppm lead.

Page 10-204, Subarticle 1092-2(A) Performance and Test Requirements, replace **Table 1092-3 Minimum Coefficient of Retroreflection for NC Grade A** with the following:

TABLE 1092-3
MINIMUM COEFFICIENT OF RETROREFLECTION FOR NC GRADE A
(Candelas Per Lux Per Square Meter)

Observation Angle, degrees	Entrance Angle, degrees	White	Yellow	Green	Red	Blue	Fluorescent Yellow Green	Fluorescent Yellow
0.2	-4.0	525	395	52	95	30	420	315
0.2	30.0	215	162	22	43	10	170	130
0.5	-4.0	310	230	31	56	18	245	185
0.5	30.0	135	100	14	27	6	110	81
1.0	-4.0	120	60	8	16	3.6	64	48
1.0	30.0	45	34	4.5	9	2	36	27

SELECT MATERIAL, CLASS III, TYPE 3:

(1-17-12)

1016, 1044

SP10 R05

Revise the *2012 Standard Specifications* as follows:

Page 10-39, Article 1016-3, CLASS III, add the following after line 14:

Type 3 Select Material

Type 3 select material is a natural or manufactured fine aggregate material meeting the following gradation requirements and as described in Sections 1005 and 1006:

Percentage of Total by Weight Passing							
3/8"	#4	#8	#16	#30	#50	#100	#200
100	95-100	65-100	35-95	15-75	5-35	0-25	0-8

Page 10-39, Article 1016-3, CLASS III, line 15, replace “either type” with “Type 1, Type 2 or Type 3”.

Page 10-62, Article 1044-1, line 36, delete the sentence and replace with the following:

Subdrain fine aggregate shall meet Class III select material, Type 1 or Type 3.

Page 10-63, Article 1044-2, line 2, delete the sentence and replace with the following:

Subdrain coarse aggregate shall meet Class V select material.

#57 STONE:

7-18-06

SP10 -1

Description

The Contractor shall place #57 stone in the in accordance with the details in the plans and the following provision.

Materials

Item	Section
# 57 Stone	1005

Construction Methods

The stone shall be placed and compacted as directed by the Engineer.

Measurement and Payment

#57 stone will be measured and paid for in tons that are completed and accepted. The stone will be measured by being weighed in trucks on certified platform scales or other certified weighing devices. The price and payment will be full compensation for furnishing, hauling, placing, and all incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
#57 Stone	Ton

PERMANENT SEEDING AND MULCHING:

(7-1-95)

1660

SP16 R02

The Department desires that permanent seeding and mulching be established on this project as soon as practical after slopes or portions of slopes have been graded. As an incentive to obtain an early stand of vegetation on this project, the Contractor's attention is called to the following:

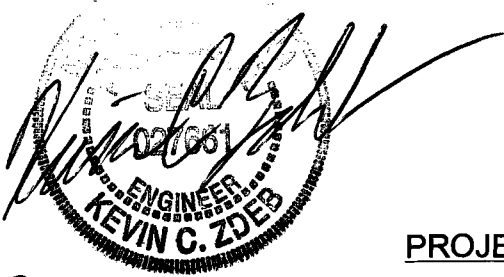
For all permanent seeding and mulching that is satisfactorily completed in accordance with the requirements of Section 1660 in the *2012 Standard Specifications* and within the following percentages of elapsed contract times, an additional payment will be made to the Contractor as an incentive additive. The incentive additive will be determined by multiplying the number of acres of seeding and mulching satisfactorily completed times the contract unit bid price per acre for Seeding and Mulching times the appropriate percentage additive.

Percentage of Elapsed Contract Time	Percentage Additive
0% - 30%	30%
30.01% - 50%	15%

Percentage of elapsed contract time is defined as the number of calendar days from the date of availability of the contract to the date the permanent seeding and mulching is acceptably completed divided by the total original contract time.

Project: C-4901A
County: Davidson

70



PROJECT SPECIAL PROVISIONS
Utility Construction

2013-MAR-08

All proposed utility construction shall meet the applicable requirements (including, but not limited to: Division 15; Section 1034; and Section 1036) of the NC Department of Transportation's "Standard Specifications for Roads and Structures" dated January 2012.

Division 15 of the Standard Specifications is revised as follows:

Page 15-1, Paragraph 2 of Article 1500-2

Provide access for Department personnel and the owner's representatives to all phases of construction. Notify Department personnel and the utility owner two weeks before commencement of any work and one week before service interruption. Keep utility owner's representatives informed of work progress and provide opportunity for inspection of construction and testing. *There is one water line on this project that belongs to the utility company listed below with their contact person.*

1. *Davidson Water Inc. The contact person for Davidson Water Inc. is Mr. Robert Walters, and he can be reached by phone at 336-731-5526.*

Any work on these utility lines, especially the operation of any valves, must be coordinated through the Engineer and the utility owner before initiating said work.

Page 15-2, Paragraph 3 of Article 1500-7

Provide As-Built plans of the installed utility. The plans shall include notations of the size and type of material installed, coordinates of utility controls, and horizontal and vertical locations of the piping. Provide 2 copies to the Utility Owner and 2 copies to the Engineer. *Provide the Utility Owner with 2 copies of surveyed As-Builts of the utility system constructed.*

Page 15-2, Lines 38 & 39 of Article 1500-9

with ample time to make arrangements. Limit interruption of service to water customers *from the 6" water line on Lower Lake Road to no more than 4 hours. Limit interruption of service to water customers from the 24" water line on Lee Smith Road to no more than 6 hours.*

Page 15-6, Article 1510-3 (B), Line 21 and Leakage Formula

than the following amount when pressurized at 200 +/- 5 psi for 2 hours *in accordance with AWWA C605*,

$$W = LD(\sqrt{P}) \div 148,000$$

Page 15-6, Article 1510-3 (B), paragraph beginning with Line 28

Sterilize water lines according to *section .1003 of the Rules Governing Public Water Supply Sections* and AWWA 651. Provide certified bacteriological and contaminant test results from *a state approved or state certified* testing laboratory in accordance with NCDENR requirements. Operate all valves and controls to assure thorough sterilization.

Page 15-6, Article 1510-3 (B), Line 36

according to AWWA C651 Sections 4.6 and 4.7 *and section 4.4.3, the Continuous Feed Method. Chlorine solution shall start at 50 PPM and maintain a level of at least 10 PPM for the 24-hour process. If chlorine level falls below 10 PPM, then the disinfection needs to be repeated for another 24 hours.*

**Project Special Provisions
Erosion Control**

STABILIZATION REQUIREMENTS:

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective August 3, 2011 issued by the North Carolina Department of Environment and Natural Resources Division of Water Quality. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 3:1 or flatter, with a slope of length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQP) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQP) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

SEEDING AND MULCHING:

(West)

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

Shoulder and Median Areas

August 1 - June 1

20#	Kentucky Bluegrass
75#	Hard Fescue
25#	Rye Grain
500#	Fertilizer
4000#	Limestone

May 1 - September 1

20#	Kentucky Bluegrass
75#	Hard Fescue
10#	German or Browntop Millet
500#	Fertilizer
4000#	Limestone

Areas Beyond the Mowing Pattern, Waste and Borrow Areas:

August 1 - June 1

100#	Tall Fescue
15#	Kentucky Bluegrass
30#	Hard Fescue
25#	Rye Grain
500#	Fertilizer
4000#	Limestone

May 1 - September 1

100#	Tall Fescue
15#	Kentucky Bluegrass
30#	Hard Fescue
10#	German or Browntop Millet
500#	Fertilizer
4000#	Limestone

Approved Tall Fescue Cultivars

2 nd Millennium	Duster	Magellan	Rendition
Avenger	Endeavor	Masterpiece	Scorpion
Barlexas	Escalade	Matador	Shelby
Barlexas II	Falcon II, III, IV & V	Matador GT	Signia
Barrera	Fidelity	Millennium	Silverstar
Barrington	Finesse II	Montauk	Southern Choice II
Biltmore	Firebird	Mustang 3	Stetson
Bingo	Focus	Olympic Gold	Tarheel
Bravo	Grande II	Padre	Titan Ltd
Cayenne	Greenkeeper	Paraiso	Titanium
Chapel Hill	Greystone	Picasso	Tomahawk
Chesapeake	Inferno	Piedmont	Tacer
Constitution	Justice	Pure Gold	Trooper
Chipper	Jaguar 3	Prospect	Turbo
Coronado	Kalahari	Quest	Ultimate
Coyote	Kentucky 31	Rebel Exeda	Watchdog
Davinci	Kitty Hawk	Rebel Sentry	Wolfpack
Dynasty	Kitty Hawk 2000	Regiment II	
Dominion	Lexington	Rembrandt	

Approved Kentucky Bluegrass Cultivars:

Alpine	Bariris	Envicta	Rugby
Apollo	Bedazzled	Impact	Rugby II
Arcadia	Bordeaux	Kenblue	Showcase
Arrow	Champagne	Midnight	Sonoma
Award	Chicago II	Midnight II	

Approved Hard Fescue Cultivars:

Chariot	Nordic	Rhino	Warwick
Firefly	Oxford	Scaldis II	
Heron	Reliant II	Spartan II	
Minotaur	Reliant IV	Stonehenge	

On cut and fill slopes 2:1 or steeper add 20# Sericea Lespedeza January 1 - December 31.

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

(West)

Native Grass Seeding And Mulching

Native Grass Seeding and Mulching shall be performed on the disturbed areas of wetlands and riparian areas, and adjacent to Stream Relocation and/or trout stream construction within a 50 foot zone on both sides of the stream or depression, measured from top of stream bank or center of depression. The stream bank of the stream relocation shall be seeded by a method that does not alter the typical cross section of the stream bank. Native Grass Seeding and Mulching shall also be performed in the permanent soil reinforcement mat section of preformed scour holes, and in other areas as directed.

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

August 1 - June 1

18#	Creeping Red Fescue
8#	Big Bluestem
6#	Indiangrass
4#	Switchgrass
35#	Rye Grain
500#	Fertilizer
4000#	Limestone

May 1 – September 1

18#	Creeping Red Fescue
8#	Big Bluestem
6#	Indiangrass
4#	Switchgrass
25#	German or Browntop Millet
500#	Fertilizer
4000#	Limestone

Approved Creeping Red Fescue Cultivars:

Aberdeen

Boreal

Epic

Cindy Lou

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

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

Measurement and Payment

Native Grass *Seeding and Mulching* will be measured and paid for in accordance with Article 1660-8 of the *Standard Specifications*.

TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. German Millet, or Browntop Millet shall be used in summer months and rye grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

FERTILIZER TOPDRESSING:

Fertilizer used for topdressing shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

SUPPLEMENTAL SEEDING:

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

MOWING:

The minimum mowing height on this project shall be six inches.

REFORESTATION:**Description**

Reforestation will be planted in areas as directed. *Reforestation* is not shown on the plan sheets. See the Reforestation Detail Sheet.

All non-maintained riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated with native woody species.

The entire *Reforestation* operation shall comply with the requirements of Section 1670 of the *Standard Specifications*.

Materials

Reforestation shall be bare root seedlings 12"-18" tall.

Construction Methods

Reforestation shall be planted as soon as practical following permanent *Seeding and Mulching*. The seedlings shall be planted in a 16-foot wide swath adjacent to mowing pattern line, or as directed.

Root dip: The roots of reforestation seedlings shall be coated with a slurry of water, and either a fine clay (kaolin) or a superabsorbent that is designated as a bare root dip. The type, mixture ratio, method of application, and the time of application shall be submitted to the Engineer for approval.

With the approval of the Engineer, seedlings may be coated before delivery to the job or at the time of planting, but at no time shall the roots of the seedlings be allowed to dry out. The roots shall be moistened immediately prior to planting.

Seasonal Limitations: *Reforestation* shall be planted from November 15 through March 15.

Measurement and Payment

Reforestation will be measured and paid for in accordance with Article 1670-17 of the *Standard Specifications*.

RESPONSE FOR EROSION CONTROL:

Description

Furnish the labor, materials, tools and equipment necessary to move personnel, equipment, and supplies to the project necessary for the pursuit of any or all of the following work as shown herein, by an approved subcontractor.

Section	Erosion Control Item	Unit
1605	Temporary Silt Fence	LF
1606	Special Sediment Control Fence	LF/TON
1615	Temporary Mulching	ACR
1620	Seed - Temporary Seeding	LB
1620	Fertilizer - Temporary Seeding	TN
1631	Matting for Erosion Control	SY
SP	Coir Fiber Mat	SY
1640	Coir Fiber Baffles	LF
SP	Permanent Soil Reinforcement Mat	SY
1660	Seeding and Mulching	ACR
1661	Seed - Repair Seeding	LB
1661	Fertilizer - Repair Seeding	TON
1662	Seed - Supplemental Seeding	LB
1665	Fertilizer Topdressing	TON

C-4901A

77

Davidson County

SP	Safety/Highly Visible Fencing	LF
SP	Response for Erosion Control	EA

Construction Methods

Provide an approved subcontractor who performs an erosion control action as described in the NPDES Inspection Form SPPP30. Each erosion control action may include one or more of the above work items.

Measurement and Payment

Response for Erosion Control will be measured and paid for by counting the actual number of times the subcontractor moves onto the project, including borrow and waste sites, and satisfactorily completes an erosion control action described in Form 1675. The provisions of Article 104-5 of the *Standard Specifications* will not apply to this item of work.

Payment will be made under:

Pay Item	Pay Unit
Response for Erosion Control	Each

MINIMIZE REMOVAL OF VEGETATION:

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

STOCKPILE AREAS:

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

ACCESS AND HAUL ROADS:

At the end of each working day, the Contractor shall install or re-establish temporary diversions or earth berms across access/haul roads to direct runoff into sediment devices. Silt fence sections that are temporarily removed shall be reinstalled across access/haul roads at the end of each working day.

WASTE AND BORROW SOURCES:

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

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

All offsite Staging Areas, Borrow and Waste sites shall be in accordance with "Borrow and Waste Site Reclamation Procedures for Contracted Projects" located at:

http://www.ncdot.gov/doh/operations/dp_chief_eng/roadside/fieldops/downloads/Files/ContractorReclamationProcedures.pdf

All forms and documents referenced in the "Borrow and Waste Site Reclamation Procedures for Contracted Projects" shall be included with the reclamation plans for offsite staging areas, and borrow and waste sites.

TEMPORARY EARTH BERMS:

Description

This work consists of installing, maintaining, and removing any and all material required for the construction of temporary earth berms. The temporary earth berms shall be used to direct the flow of water to specific erosion control device(s), or to direct water flowing from offsite around/away from specific area(s) of construction.

Construction Methods

The Contractor shall install the temporary earth berms in accordance with the details in the plans and at locations indicated in the plans, and as directed. Upon installation, the earth berms shall be immediately stabilized as provided in Section 1620 of the *Standard Specifications*. Other stabilization methods may be utilized with prior approval from the Engineer.

Upon completion of the project, the temporary earth berms shall be removed. The earth material can be utilized in the filling of silt ditches and detention devices, or graded to match the existing contours and permanently seeded and mulched.

Measurement and Payment

The installation of the temporary earth berms will be paid for as *Borrow Excavation* as provided in Section 230 of the *Standard Specifications* or included in the lump sum price for grading.

Stabilization of the temporary earth berms will be paid for as *Temporary Seeding* as provided in Section 1620 of the *Standard Specifications*.

Such price and payment shall be considered full compensation for all work covered by this section including all materials, construction, maintenance, and removal of the temporary earth berms.

CLEAN WATER DIVERSION:**Description**

This work consists of installing, maintaining, and removing any and all material required for the construction of clean water diversions. The clean water diversions shall be used to direct water flowing from offsite around/away from specific area(s) of construction.

Materials

Refer to Division 10

Item

Geotextile for Soil Stabilization, Type 4

Section

1056

Construction Methods

The Contractor shall install the clean water diversions in accordance with the details in the plans and at locations indicated in the plans, and as directed. Upon installation, the excavated material shall be immediately stabilized as provided in Section 1620 of the *Standard Specifications*. Other stabilization methods may be utilized with prior approval from the Engineer.

Line clean water diversion with geotextile unrolled in the direction of flow and lay smoothly but loosely on soil surface without creases. Bury top of slope geotextile edge in a trench at least 5" deep and tamp securely. Make vertical overlaps a minimum of 18" with upstream geotextile overlapping the downstream geotextile.

Secure geotextile with eleven gauge wire staples shaped into a *u* shape with a length of not less than 6" and a throat not less than 1" in width. Place staples along outer edges and throughout the geotextile a maximum of 3 ft. horizontally and vertically.

Measurement and Payment

Silt Excavation will be measured and paid for in accordance with Article 1630-4 of the *Standard Specifications*.

Geotextile for Soil Stabilization will be measured and paid for in accordance with Article 270-4 of the *Standard Specifications*.

Stabilization of the excavated material will be paid for as *Temporary Seeding* as provided in Section 1620 of the *Standard Specifications*.

Such price and payment shall be considered full compensation for all work covered by this section including all materials, construction, maintenance, and removal of the clean water diversions.

SAFETY FENCE AND JURISDICTIONAL FLAGGING:**Description**

Safety Fence shall consist of furnishing materials, installing and maintaining polyethylene or polypropylene fence along the outside riparian buffer, wetland, or water boundary, or other boundaries located within the construction corridor to mark the areas that have been approved to infringe within the buffer, wetland, endangered vegetation, culturally sensitive areas or water. The fence shall be installed prior to any land disturbing activities.

Interior boundaries for jurisdictional areas noted above shall be delineated by stakes and highly visible flagging.

Jurisdictional boundaries at staging areas, waste sites, or borrow pits, whether considered outside or interior boundaries shall be delineated by stakes and highly visible flagging.

Materials**(A) Safety Fencing**

Polyethylene or polypropylene fence shall be a highly visible preconstructed safety fence approved by the Engineer. The fence material shall have an ultraviolet coating.

Either wood posts or steel posts may be used. Wood posts shall be hardwood with a wedge or pencil tip at one end, and shall be at least 5 ft. in length with a minimum nominal 2" x 2" cross section. Steel posts shall be at least 5 ft. in length, and have a minimum weight of 0.85 lb/ft of length.

(B) Boundary Flagging

Wooden stakes shall be 4 feet in length with a minimum nominal 3/4" x 1-3/4" cross section. The flagging shall be at least 1" in width. The flagging material shall be vinyl and shall be orange in color and highly visible.

Construction Methods

No additional clearing and grubbing is anticipated for the installation of this fence. The fence shall be erected to conform to the general contour of the ground.

(A) Safety Fencing

Posts shall be set at a maximum spacing of 10 ft., maintained in a vertical position and hand set or set with a post driver. If hand set, all backfill material shall be thoroughly tamped. Wood posts may be sharpened to a dull point if power driven. Posts damaged by power driving shall be removed and replaced prior to final acceptance. The tops of all wood posts shall be cut at a 30-

degree angle. The wood posts may, at the option of the Contractor, be cut at this angle either before or after the posts are erected.

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

Place construction stakes to establish the location of the safety fence in accordance with Article 105-9 or Article 801-1 of the *Standard Specifications*. No direct pay will be made for the staking of the safety fence. All stakeouts for safety fence shall be considered incidental to the work being paid for as "Construction Surveying", except that where there is no pay item for construction surveying, all safety fence stakeout will be performed by state forces.

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

(B) Boundary Flagging

Boundary flagging delineation of interior boundaries shall consist of wooden stakes on 25 feet maximum intervals with highly visible orange flagging attached. Stakes shall be installed a minimum of 6" into the ground. Interior boundaries may be staked on a tangent that runs parallel to buffer but must not encroach on the buffer at any location. Interior boundaries of hand clearing shall be identified with a different colored flagging to distinguish it from mechanized clearing.

Boundary flagging delineation of interior boundaries will be placed in accordance with Article 105-9 or Article 801-1 of the *Standard Specifications*. No direct pay will be made for delineation of the interior boundaries. This delineation will be considered incidental to the work being paid for as *Construction Surveying*, except that where there is no pay item or construction surveying the cost of boundary flagging delineation shall be included in the unit prices bid for the various items in the contract. Installation for delineation of all jurisdictional boundaries at staging areas, waste sites, or borrow pits shall consist of wooden stakes on 25 feet maximum intervals with highly visible orange flagging attached. Stakes shall be installed a minimum of 6" into the ground. Additional flagging may be placed on overhanging vegetation to enhance visibility but does not substitute for installation of stakes.

Installation of boundary flagging for delineation of all jurisdictional boundaries at staging areas, waste sites, or borrow pits shall be performed in accordance with Subarticle 230-4(B)(3)(d) or Subarticle 802-2(F) of the *Standard Specifications*. No direct pay will be made for this delineation, as the cost of same shall be included in the unit prices bid for the various items in the contract.

The Contractor shall be required to maintain alternative stakes and highly visible flagging in a satisfactory condition for the duration of the project as determined by the Engineer.

Measurement and Payment

Safety Fence will be measured and paid as the actual number of linear feet of polyethylene or polypropylene fence installed in place and accepted. Such payment will be full compensation including but not limited to furnishing and installing fence geotextile with necessary posts and post bracing, staples, tie wires, tools, equipment and incidentals necessary to complete this work.

Payment will be made under:

Pay Item	Pay Unit
Safety Fence	Linear Foot

PERMANENT SOIL REINFORCEMENT MAT:**Description**

This work consists of furnishing and placing *Permanent Soil Reinforcement Mat*, of the type specified, over previously prepared areas as directed.

Materials

The product shall be a permanent erosion control reinforcement mat and shall be constructed of synthetic or a combination of coconut and synthetic fibers evenly distributed throughout the mat between a bottom UV stabilized netting and a heavy duty UV stabilized top net. The matting shall be stitched together with UV stabilized polypropylene thread to form a permanent three-dimensional structure. The mat shall have the following minimum physical properties:

Property	Test Method	Value	Unit
Light Penetration	ASTM D6567	9	%
Thickness	ASTM D6525	0.40	in
Mass Per Unit Area	ASTM D6566	0.55	lb/sy
Tensile Strength	ASTM D6818	385	lb/ft
Elongation (Maximum)	ASTM D6818	49	%
Resiliency	ASTM D1777	>70	%
UV Stability *	ASTM D4355	≥80	%
Porosity (Permanent Net)	ECTC Guidelines	≥85	%
Maximum Permissible Shear Stress (Vegetated)	Performance Bench Test	≥8.0	lb/ft ²
Maximum Allowable Velocity (Vegetated)	Performance Bench Test	≥16.0	ft/s

*ASTM D1682 Tensile Strength and % strength retention of material after 1000 hours of exposure.

Submit a certification (Type 1, 2, or 3) from the manufacturer showing:

- (A) the chemical and physical properties of the mat used, and
- (B) conformance of the mat with this specification.

Construction Methods

Matting shall be installed in accordance with Subarticle 1631-3(B) of the *Standard Specifications*.

All areas to be protected with the mat shall be brought to final grade and seeded in accordance with Section 1660 of the *Standard Specifications*. The surface of the soil shall be smooth, firm, stable and free of rocks, clods, roots or other obstructions that would prevent the mat from lying in direct contact with the soil surface. Areas where the mat is to be placed will not need to be mulched.

Measurement and Payment

Permanent Soil Reinforcement Mat will be measured and paid for as the actual number of square yards measured along the surface of the ground over which Permanent Soil Reinforcement Mat is installed and accepted. Overlaps will not be included in the measurement, and will be considered as incidental to the work. Such payment shall be full compensation for furnishing and installing the mat, including overlaps, and for all required maintenance.

Payment will be made under:

Pay Item	Pay Unit
Permanent Soil Reinforcement Mat	Square Yard

SKIMMER BASIN WITH BAFFLES:

Description

Provide a skimmer basin to remove sediment from construction site runoff at locations shown in the erosion control plans. See the Skimmer Basin with Baffles Detail sheet provided in the erosion control plans. Work includes constructing sediment basin, installation of temporary slope drain pipe and coir fiber baffles, furnishing, installation and cleanout of Faircloth Skimmers or other approved equivalent device, providing and placing stone pad on bottom of basin underneath skimmer device, providing and placing a geotextile emergency spillway liner, providing coir fiber mat stabilization for the skimmer outlet, disposing of excess materials, removing temporary slope drain, coir fiber baffles, geotextile liner and skimmer device, backfilling basin area with suitable material and providing proper drainage when basin area is abandoned.

Materials

Item	Section
Stone for Erosion Control, Class B	1042

Geotextile for Soil Stabilization, Type 4	1056
Fertilizer for Temporary Seeding	1060-2
Seed for Temporary Seeding	1060-4
Seeding and Mulching	1060-4
Matting for Erosion Control	1060-8
Staples	1060-8
Coir Fiber Mat	1060-14
Temporary Slope Drain	1622-2
Coir Fiber Baffle	1640

Provide appropriately sized Faircloth skimmer or other approved equivalent device.

Provide Schedule 40 PVC pipe with a length of 6 ft. to attach to the skimmer and the coupling connection to serve as the arm pipe. For skimmer sizes of 2.5 in. and smaller, the arm pipe diameter shall be 1.5 inches. For skimmer sizes of 3 in. and larger, refer to manufacturer recommendation.

Provide 4" diameter Schedule 40 PVC pipe to attach to coupling connection of Faircloth skimmer to serve as the barrel pipe through the earthen dam.

Anchors: Staples, stakes, or reinforcement bars shall be used as anchors.

Wooden Stakes:

Provide hardwood stakes 12"- 24" long with a 2" x 2" nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving through the coir fiber mat and down into the underlying soil. The other end of the stake needs to have a 1"- 2" long head at the top with a 1"- 2" notch following to catch and secure the coir fiber mat.

Steel Reinforcement Bars:

Provide uncoated #10 steel reinforcement bars 24" nominal length. The bars shall have a 4" diameter bend at one end with a 4" straight section at the tip to catch and secure the coir fiber mat.

Staples:

Provide staples made of 0.125" diameter new steel wire formed into a *u* shape not less than 12" in length with a throat of 1" in width.

Construction Methods

Excavate basin according to the erosion control plans with basin surface free of obstructions, debris, and pockets of low-density material. Install temporary slope drain pipe and construct the emergency spillway according to the Skimmer Basin with Baffles Detail sheet in the erosion control plans. Temporary slope drain pipe at inlet of basin may be replaced by geotextile as

directed. Construct the coir fiber baffles according to *Roadway Standard Drawings* No. 1640.01 and Section 1640 of the *Standard Specifications*.

Install Faircloth skimmer or other approved equivalent device according to manufacturer recommendations. Install 4" Schedule 40 PVC pipe into dam on the lower side of basin 1 ft. from the bottom of the basin and according to the detail, and extend the pipe so the basin will drain. Attach a 6 ft. arm pipe to the coupling connection and Faircloth skimmer according to manufacturer recommendations. Attach the rope included with the skimmer to the tee between the vent socket and the tube inlet, and the other end to a wooden stake or metal post. Clean out skimmer device when it becomes clogged with sediment and/or debris and is unable to float at the top of water in skimmer basin. Take appropriate measures to avoid ice accumulation in the skimmer device. Construct a stone pad of Class B stone directly underneath the skimmer device at bottom of basin. The pad shall be a minimum of 12" in height, and shall have a minimum cross sectional area of 4 ft. by 4 ft.

Line emergency spillway with geotextile unrolled in the direction of flow and lay smoothly but loosely on soil surface without creases. Bury edges of geotextile in a trench at least 5" deep and tamp firmly. If geotextile for the emergency spillway is not one continuous piece of material, make horizontal overlaps a minimum of 18" with upstream geotextile overlapping the downstream geotextile. Secure geotextile with eleven gauge wire staples shaped into a *u* shape with a length of not less than 12" and a throat not less than 1" in width. Place staples along outer edges and throughout the geotextile a maximum of 3 ft. horizontally and vertically. Geotextile shall be placed to the bottom and across the entire width of the basin according to the Skimmer Basin with Baffles detail. Place sealant inside basin around barrel pipe on top of geotextile with a minimum width of 6 in.

At the skimmer outlet, provide a smooth soil surface free from stones, clods, or debris that will prevent contact of the coir fiber matting with the soil. Unroll the matting and apply without stretching such that it will lie smoothly but loosely on the soil surface. Wooden stakes, reinforcement bars, or staples may be used as anchors in accordance with the details in the plans and as directed. Place anchors across the matting at the ends approximately 1 ft. apart. Place anchors along the outer edges and down the center of the matting 3 ft. apart.

All bare side slope sections of the skimmer basin shall be seeded with a temporary or permanent seed mix as directed and in accordance with Articles 1620-3, 1620-4, 1620-5, 1660-4, 1660-5 and 1660-7 of the *Standard Specifications*. Straw or excelsior matting shall be installed on all bare side slope sections immediately upon the completion of seeding and in accordance with Article 1631-3 of the *Standard Specifications*.

Measurement and Payment

Silt Excavation will be measured and paid for in accordance with Article 1630-4 of the *Standard Specifications*, as calculated from the typical section throughout the length of the basin as shown on the final approved plans.

Geotextile for Soil Stabilization will be measured and paid for in accordance with Article 270-4 of the *Standard Specifications*.

Coir Fiber Baffles will be measured and paid for in accordance with Article 1640-4 of the *Standard Specifications*.

___" *Skimmer* will be measured in units of each. ___" *Skimmer* will be measured and paid for as the maximum number of each size skimmer acceptably installed and in use at any one time during the life of the project. Barrel and arm pipe, cleanout, relocation and reinstallation of ___" *Skimmer* is considered incidental to the measurement of the quantity of ___" *Skimmer* and no separate payment will be made. No separate payment shall be made if ___" *Skimmer*, barrel and/or arm pipe(s) are damaged by ice accumulation.

Coir Fiber Mat will be measured and paid for as the actual number of square yards measured along the surface of the ground over which coir fiber mat is installed and accepted.

Temporary Slope Drain will be measured and paid for in accordance with Article 1622-4 of the *Standard Specifications*.

Stone for Erosion Control, Class ___ will be measured and paid for in accordance with Article 1610-4 of the *Standard Specifications*.

Seeding and Mulching will be measured and paid for in accordance with Article 1660-8 of the *Standard Specifications*.

Seed for Temporary Seeding will be measured and paid for in accordance with Article 1620-6 of the *Standard Specifications*.

Fertilizer for Temporary Seeding will be measured and paid for in accordance with Article 1620-6 of the *Standard Specifications*.

Matting for Erosion Control will be measured and paid for in accordance with Article 1631-4 of the *Standard Specifications*.

No measurement will be made for other items or for over excavation or stockpiling.

Payment will be made under:

Pay Item	Pay Unit
___" Skimmer	Each
Coir Fiber Mat	Square Yard

TIERED SKIMMER BASIN WITH BAFFLES:**Description**

Provide a tiered skimmer basin to remove sediment from construction site runoff at locations shown in the erosion control plans. See the Tiered Skimmer Basin Detail sheet provided in the erosion control plans. Tiered Skimmer Basins shall be installed in areas where topography creates a large elevation difference between the inlet and outlet of a single skimmer basin. Work includes constructing sediment basins, installation of coir fiber baffles, installation of temporary slope drains, furnishing, installation and cleanout of Faircloth Skimmers or other approved equivalent device, providing and placing stone pad on bottom of basin underneath skimmer device, providing and placing geotextile emergency spillway liners, providing coir fiber mat stabilization for the skimmer outlet, disposing of excess materials, removing temporary slope drains, coir fiber baffles, geotextile liner and skimmer device, backfilling basin area with suitable material and providing proper drainage when basin area is abandoned.

Materials

Item	Section
Stone for Erosion Control, Class B	1042
Geotextile for Soil Stabilization, Type 4	1056
Fertilizer for Temporary Seeding	1060-2
Seed for Temporary Seeding	1060-4
Seeding and Mulching	1060-4
Matting for Erosion Control	1060-8
Staples	1060-8
Coir Fiber Mat	1060-14
Temporary Slope Drain	1622-2
Coir Fiber Baffle	1640

Provide appropriately sized Faircloth skimmer or other approved equivalent device.

Provide Schedule 40 PVC pipe with a length of 6 ft. to attach to the skimmer and the coupling connection to serve as the arm pipe. For skimmer sizes of 2.5 in. and smaller, the arm pipe diameter shall be 1.5 inches. For skimmer sizes of 3 in. and larger, refer to manufacturer recommendation.

Provide 4" diameter Schedule 40 PVC pipe to attach to coupling connection of Faircloth skimmer to serve as the barrel pipe through the earthen dam.

Anchors: Staples, stakes, or reinforcement bars shall be used as anchors.

Wooden Stakes:

Provide hardwood stakes 12"- 24" long with a 2" x 2" nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving through the coir fiber

mat and down into the underlying soil. The other end of the stake needs to have a 1"- 2" long head at the top with a 1"- 2" notch following to catch and secure the coir fiber mat.

Steel Reinforcement Bars:

Provide uncoated #10 steel reinforcement bars 24" nominal length. The bars shall have a 4" diameter bend at one end with a 4" straight section at the tip to catch and secure the coir fiber mat.

Staples:

Provide staples made of 0.125" diameter new steel wire formed into a *u* shape not less than 12" in length with a throat of 1" in width.

Construction Methods

Excavate basins according to the erosion control plans with basin surface free of obstructions, debris, and pockets of low-density material. Install temporary slope drains and construct the emergency spillways according to the Tiered Skimmer Basin Detail sheet in the erosion control plans. Construct the coir fiber baffles according to *Roadway Standard Drawings* No. 1640.01 and Section 1640 of the *Standard Specifications*. Multiple upper basins, or Modified Silt Basins Type 'B' as labeled on the detail, may be required based on site conditions and as directed.

Install Faircloth skimmer or other approved equivalent device according to manufacturer recommendations. Install 4" Schedule 40 PVC pipe into dam on the lower side of basin 1 ft. from the bottom of the basin and according to the detail, and extend the pipe so the basin will drain. Attach a 6 ft. arm pipe to the coupling connection and Faircloth skimmer according to manufacturer recommendations. Attach the rope included with the skimmer to the tee between the vent socket and the tube inlet, and the other end to a wooden stake or metal post. Clean out skimmer device when it becomes clogged with sediment and/or debris and is unable to float at the top of water in skimmer basin. Take appropriate measures to avoid ice accumulation in the skimmer device. Construct a stone pad of Class B stone directly underneath the skimmer device at bottom of basin. The pad shall be a minimum of 12" in height, and shall have a minimum cross sectional area of 4 ft. by 4 ft.

Install a minimum of 2 (two) temporary slope drains to dewater the upper basin to the lower basin. The slope drains shall be installed a minimum of 6 inches, or one radius width of the temporary slope drain pipe, below the base of the emergency spillway section of the upper basin. The outlet of the slope drains shall be placed on the bottom elevation of the lower basin.

Line emergency spillways with geotextile unrolled in the direction of flow and lay smoothly but loosely on soil surface without creases. Bury edges of geotextile in a trench at least 5" deep and tamp firmly. If geotextile for emergency spillways is not one continuous piece of material, make horizontal overlaps a minimum of 18" with upstream geotextile overlapping the downstream geotextile. Secure geotextile with eleven gauge wire staples shaped into a *u* shape with a length of not less than 12" and a throat not less than 1" in width. Place staples along outer edges and

throughout the geotextile a maximum of 3 ft. horizontally and vertically. Geotextile shall be placed to the bottom and across the entire width of the basin according to the Tiered Skimmer Basin with Baffles detail.

At the skimmer outlet, provide a smooth soil surface free from stones, clods, or debris that will prevent contact of the coir fiber matting with the soil. Unroll the matting and apply without stretching such that it will lie smoothly but loosely on the soil surface. Wooden stakes, reinforcement bars, or staples may be used as anchors in accordance with the details in the plans and as directed. Place anchors across the matting at the ends approximately 1 ft. apart. Place anchors along the outer edges and down the center of the matting 3 ft. apart. Place sealant inside basin around barrel pipe on top of geotextile with a minimum width of 6 in.

All bare side slope sections of the skimmer basin shall be seeded with a temporary or permanent seed mix as directed and in accordance with Articles 1620-3, 1620-4, 1620-5, 1660-4, 1660-5 and 1660-7 of the *Standard Specifications*. Straw or excelsior matting shall be installed on all bare side slope sections immediately upon the completion of seeding and in accordance with Article 1631-3 of the *Standard Specifications*.

Measurement and Payment

Silt Excavation will be measured and paid for in accordance with Article 1630-4 of the *Standard Specifications*, as calculated from the typical section throughout the length of the basin as shown on the final approved plans.

Geotextile for Soil Stabilization will be measured and paid for in accordance with Article 270-4 of the *Standard Specifications*.

Coir Fiber Baffles will be measured and paid for in accordance with Article 1640-4 of the *Standard Specifications*.

___" *Skimmer* will be measured in units of each. ___" *Skimmer* will be measured and paid for as the maximum number of each size skimmer acceptably installed and in use at any one time during the life of the project. Barrel and arm pipe, cleanout, relocation and reinstallation of ___" *Skimmer* is considered incidental to the measurement of the quantity of ___" *Skimmer* and no separate payment will be made. No separate payment shall be made if ___" *Skimmer*, barrel and/or arm pipe(s) are damaged by ice accumulation.

Coir Fiber Mat will be measured and paid for as the actual number of square yards measured along the surface of the ground over which coir fiber mat is installed and accepted.

Temporary Slope Drain will be measured and paid for in accordance with Article 1622-4 of the *Standard Specifications*.

Stone for Erosion Control, Class ___ will be measured and paid for in accordance with Article 1610-4 of the *Standard Specifications*.

Seeding and Mulching will be measured and paid for in accordance with Article 1660-8 of the *Standard Specifications*.

Seed for Temporary Seeding will be measured and paid for in accordance with Article 1620-6 of the *Standard Specifications*.

Fertilizer for Temporary Seeding will be measured and paid for in accordance with Article 1620-6 of the *Standard Specifications*.

Matting for Erosion Control will be measured and paid for in accordance with Article 1631-4 of the *Standard Specifications*.

No measurement will be made for other items or for over excavation or stockpiling.

Payment will be made under:

Pay Item	Pay Unit
___" Skimmer	Each
Coir Fiber Mat	Square Yard

COIR FIBER WATTLES WITH POLYACRYLAMIDE (PAM):

Description

Coir Fiber Wattles are tubular products consisting of coir fibers (coconut fibers) encased in coir fiber netting. Coir Fiber Wattles are used on slopes or channels to intercept runoff and act as a velocity break. Coir Fiber Wattles are to be placed at locations shown on the plans or as directed. Installation shall follow the detail provided in the plans and as directed. Work includes furnishing materials, installation of coir fiber wattles, matting installation, PAM application, and removing wattles.

Materials

Coir Fiber Wattle shall meet the following specifications:

100% Coir (Coconut) Fibers	
Minimum Diameter	12 in.
Minimum Density	3.5 lb/ft ³ +/- 10%
Net Material	Coir Fiber
Net Openings	2 in. x 2 in.
Net Strength	90 lbs.
Minimum Weight	2.6 lbs./ft. +/- 10%

Anchors: Stakes shall be used as anchors.

Wooden Stakes:

Provide hardwood stakes a minimum of 2-ft. long with a 2 in. x 2 in. nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving down into the underlying soil.

Matting shall meet the requirements of Article 1060-8 of the *Standard Specifications*, or shall meet specifications provided elsewhere in this contract.

Provide staples made of 0.125" diameter new steel wire formed into a *u* shape not less than 12" in length with a throat of 1" in width.

Polyacrylamide (PAM) shall be applied in powder form and shall be anionic or neutrally charged. Soil samples shall be obtained in areas where the wattles will be placed, and from offsite material used to construct the roadway, and analyzed for the appropriate PAM flocculant to be utilized with each wattle. The PAM product used shall be listed on the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Water Quality (DWQ) web site as an approved PAM product for use in North Carolina.

Construction Methods

Coir Fiber Wattles shall be secured to the soil by wire staples approximately every 1 linear foot and at the end of each section of wattle. A minimum of 4 stakes shall be installed on the downstream side of the wattle with a maximum spacing of 2 linear feet along the wattle, and according to the detail. Install a minimum of 2 stakes on the upstream side of the wattle according to the detail provided in the plans. Stakes shall be driven into the ground a minimum of 10 in. with no more than 2 in. projecting from the top of the wattle. Drive stakes at an angle according to the detail provided in the plans.

Only install coir fiber wattle(s) to a height in ditch so flow will not wash around wattle and scour ditch slopes and according to the detail provided in the plans and as directed. Overlap adjoining sections of wattles a minimum of 6 in.

Installation of matting shall be in accordance with the detail provided in the plans, and in accordance with Article 1631-3 of the *Standard Specifications*, or in accordance with specifications provided elsewhere in this contract.

Apply PAM over the lower center portion of the coir fiber wattle where the water is going to flow over at a rate of 2 ounces per wattle, and 1 ounce of PAM on matting on each side of the wattle. PAM applications shall be done during construction activities after every rainfall event that is equal to or exceeds 0.50 in.

The Contractor shall maintain the coir fiber wattles until the project is accepted or until the wattles are removed, and shall remove and dispose of silt accumulations at the wattles when so directed in accordance with the requirements of Section 1630 of the *Standard Specifications*.

Measurement and Payment

Coir Fiber Wattles will be measured and paid for by the actual number of linear feet of wattles which are installed and accepted. Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to install the *Coir Fiber Wattles*.

Matting will be measured and paid for in accordance with Article 1631-4 of the *Standard Specifications*, or in accordance with specifications provided elsewhere in this contract.

Polyacrylamide(PAM) will be measured and paid for by the actual weight in pounds of PAM applied to the coir fiber wattles. Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to apply the *Polyacrylamide(PAM)*.

Payment will be made under:

Pay Item	Pay Unit
Polyacrylamide(PAM)	Pound
Coir Fiber Wattle	Linear Foot

SILT FENCE COIR FIBER WATTLE BREAK:

(8-21-12) 1605,1630

Description

Silt fence coir fiber wattle breaks are tubular products consisting of coir fibers (coconut fibers) encased in coir fiber netting and used in conjunction with temporary silt fence at the toe of fills to intercept runoff. Silt fence coir fiber wattle breaks are to be placed at locations shown on the plans or as directed. Installation shall follow the detail provided in the plans and as directed. Work includes furnishing materials, installation, maintenance and removing Silt fence coir fiber wattle breaks.

Materials

Coir fiber wattle shall meet the following specifications:

100% Coir (Coconut) Fibers	
Minimum Diameter	12"
Minimum Length	10 ft
Minimum Density	3.5 lb/cf $\pm$ 10%
Net Material	Coir Fiber

Net Openings	2" x 2"
Net Strength	90 lb.
Minimum Weight	2.6 lb/ft $\pm$ 10%

Stakes shall be used as anchors. Provide hardwood stakes a minimum of 2-ft long with a 2" x 2" nominal square cross section. One end of the stake shall be sharpened or beveled to facilitate driving down into the underlying soil.

Provide staples made of 0.125" diameter new steel wire formed into a U-shape not less than 12" in length with a throat of 1" in width.

Construction Methods

Excavate a trench the entire length of each wattle with a depth of 1" to 2" for the wattle to be placed. Secure silt fence coir fiber wattle breaks to the soil by wire staples approximately every linear foot and at the end of each wattle. Install at least 4 stakes on the downslope side of the wattle with a maximum spacing of 2 linear feet and according to the detail. Install at least 2 stakes on the upslope side of the silt fence coir fiber wattle break according to the detail provided in the plans. Drive stakes into the ground at least 10" with no more than 2" projecting from the top of the wattle. Drive stakes at an angle according to the detail provided in the plans.

Install temporary silt fence in accordance with Section 1605 of the *2012 Standard Specifications* and overlap each downslope side of silt fence wattle break by 6".

Maintain the silt fence coir fiber wattle breaks until the project is accepted or until the silt fence coir fiber wattle breaks are removed, and remove and dispose of silt accumulations at the silt fence coir fiber wattle breaks when so directed in accordance with Section 1630 of the *2012 Standard Specifications*.

Measurement and Payment

Coir Fiber Wattle will be measured and paid as the actual number of linear feet of wattles installed and accepted. Such price and payment will be full compensation for all work covered by this provision, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to install the silt fence coir fiber wattle break.

Payment will be made under:

Pay Item
Coir Fiber Wattle

Pay Unit
Linear Foot

TEMPORARY ROCK SILT CHECK TYPE A WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM):**Description**

Temporary Rock Silt Checks Type A with Excelsior Matting and Polyacrylamide (PAM) are devices utilized in temporary and permanent ditches to reduce runoff velocity and incorporate PAM into the construction runoff to increase settling of sediment particles and reduce turbidity of runoff. Temporary Rock Silt Checks Type A with Excelsior Matting and PAM are to be placed at locations shown on the plans or as directed. Installation shall follow the detail provided in the plans and as directed. Work includes furnishing materials, installation of Temporary Rock Silt Checks Type A, matting installation, PAM application, and removing Temporary Rock Silt Checks Type A with Excelsior Matting and PAM.

Materials

Structural stone shall be class B stone that meets the requirements of Section 1042 of the *Standard Specifications* for Stone for Erosion Control, Class B.

Sediment control stone shall be #5 or #57 stone, which meets the requirements of Section 1005 of the *Standard Specifications* for these stone sizes.

Matting shall meet the requirements of Excelsior Matting in Subarticle 1060-8(B) of the *Standard Specifications*, or shall meet specifications provided elsewhere in this contract.

Polyacrylamide (PAM) shall be applied in powder form and shall be anionic or neutrally charged. Soil samples shall be obtained in areas where the Temporary Rock Silt Checks Type A with Excelsior Matting and PAM will be placed, and from offsite material used to construct the roadway, and analyzed for the appropriate PAM flocculant to be utilized with each Temporary Rock Silt Check Type A. The PAM product used shall be listed on the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Water Quality (DWQ) web site as an approved PAM product for use in North Carolina.

Construction Methods

Temporary Rock Silt Checks Type A shall be installed in accordance with Subarticle 1633-3(A) of the *Standard Specifications*, Roadway Standard Drawing No. 1633.01 and the detail provided in the plans.

Installation of matting shall be in accordance with the detail provided in the plans, and anchored by placing Class B stone on top of the matting at the upper and lower ends.

Apply PAM at a rate of 3.5 ounces over the center portion of the Temporary Rock Silt Checks Type A and matting where the water is going to flow over. PAM applications shall be done during construction activities and after every rainfall event that is equal to or exceeds 0.50 in.

The Contractor shall maintain the Temporary Rock Silt Checks Type A with Excelsior Matting and PAM until the project is accepted or until the Temporary Rock Silt Checks Type A with Excelsior Matting and PAM are removed, and shall remove and dispose of silt accumulations at the Temporary Rock Silt Checks Type A with Excelsior Matting and PAM when so directed in accordance with the requirements of Section 1630 of the *Standard Specifications*.

Measurement and Payment

Temporary Rock Silt Checks Type A will be measured and paid for in accordance with Article 1633-5 of the *Standard Specifications*, or in accordance with specifications provided elsewhere in this contract.

Matting will be measured and paid for in accordance with Article 1631-4 of the *Standard Specifications*, or in accordance with specifications provided elsewhere in this contract.

Polyacrylamide(PAM) will be measured and paid for by the actual weight in pounds of PAM applied to the Temporary Rock Silt Checks Type A. Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to apply the *Polyacrylamide(PAM)*.

Payment will be made under:

Pay Item	Pay Unit
Polyacrylamide(PAM)	Pound

IMPERVIOUS DIKE:

Description

This work consists of furnishing, installing, maintaining, and removing an *Impervious Dike* for the purpose of diverting normal stream flow around the construction site. The Contractor shall construct an impervious dike in such a manner approved by the Engineer. The impervious dike shall not permit seepage of water into the construction site or contribute to siltation of the stream. The impervious dike shall be constructed of an acceptable material in the locations noted on the plans or as directed.

Materials

Acceptable materials shall include but not be limited to sheet piles, sandbags, and/or the placement of an acceptable size stone lined with polypropylene or other impervious geotextile.

Earth material shall not be used to construct an impervious dike when it is in direct contact with the stream unless vegetation can be established before contact with the stream takes place.

Measurement and Payment

Impervious Dike will be measured and paid as the actual number of linear feet of impervious dike(s) constructed, measured in place from end to end of each separate installation that has been completed and accepted. Such price and payment will be full compensation for all work including but not limited to furnishing materials, construction, maintenance, and removal of the impervious dike.

Payment will be made under:

Pay Item	Pay Unit
Impervious Dike	Linear Foot

TEMPORARY PIPE FOR CULVERT CONSTRUCTION:**Description**

This work consists of furnishing, installing, maintaining and removing any and all temporary pipe used on this project in conjunction with the culvert construction.

Construction Methods

The Contractor shall install temporary pipe in locations shown on the plans in such a manner approved by the Engineer. The temporary pipe shall provide a passageway for the stream through the work-site. The minimum size requirements will be as stated on the erosion control plans.

Measurement and Payment

___" *Temporary Pipe* will be measured and paid for at the contract unit price per linear foot of temporary pipe approved by the Engineer and measured in place from end to end. Such price and payment will be full compensation for all work covered by this section including but not limited to furnishing all materials required for installation, construction, maintenance, and removal of temporary pipe.

Payment will be made under:

Pay Item	Pay Unit
___" Temporary Pipe	Linear Foot

STREAMBANK REFORESTATION:**Description**

Streambank Reforestation will be planted in areas as directed. See the Streambank Reforestation Detail Sheets.

The entire *Streambank Reforestation* operation shall comply with the requirements of Section 1670 of the *Standard Specifications*.

Materials

Item	Section
Coir Fiber Mat	1060-14

Live Stakes:

Type I Streambank Reforestation shall be live stakes, planted along both streambanks. Live stakes shall be ½" - 2" in diameter. Stakes shall also be 2 ft. - 3 ft. in length.

Live staking plant material shall consist of a random mix made up of 50% Black Willow (*Salix nigra*) and 50% Silky Dogwood (*Cornus amomum*). Other species may be substituted upon approval of the Engineer. All plant material shall be harvested locally (within the same physiographic ecoregion and plant hardiness zone) or purchased from a local nursery, with the approval of the Engineer. All live stakes shall be dormant at time of acquisition and planting.

Staples, stakes, or reinforcement bars shall be used as anchors and shall meet the following requirements:

Wooden Stakes:

Provide hardwood stakes 12" - 24" long with a 2" x 2" nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving through the coir fiber mat and down into the underlying soil. The other end of the stake needs to have a 1" - 2" long head at the top with a 1" - 2" notch following to catch and secure the coir fiber mat.

Steel Reinforcement Bars:

Provide uncoated #10 steel reinforcement bars 24" nominal length. The bars shall have a 4" diameter bend at one end with a 4" straight section at the tip to catch and secure the coir fiber mat.

Staples:

Provide staples made of 0.125" diameter new steel wire formed into a *u* shape not less than 12" in length with a throat of 1" in width.

Bare Root Seedlings:

Type II Streambank Reforestation shall be bare root seedlings 12"-18" tall.

Construction Methods

Coir fiber matting shall be installed on the streambanks where live staking is to be planted as shown on the Streambank Reforestation Detail Sheets and in locations as directed. Work includes providing all materials, excavating and backfilling, and placing and securing coir fiber mat.

Provide a smooth soil surface free from stones, clods, or debris that will prevent the contact of the matting with the soil. Place the matting immediately upon final grading and permanent seeding. Take care to preserve the required line, grade, and cross section of the area covered.

Unroll the matting and apply without stretching such that it will lie smoothly but loosely on the soil surface. Bury the top slope end of each piece of matting in a narrow trench at least 6" deep and tamp firmly. Where one roll of matting ends and a second roll begins, overlap the end of the upper roll over the buried end of the second roll so there is a 6" overlap. Construct check trenches at least 12" deep every 50 ft. longitudinally along the edges of the matting, or as directed. Fold over and bury matting to the full depth of the trench, close and tamp firmly. Overlap matting at least 6" where 2 or more widths of matting are installed side by side.

Wooden stakes, reinforcement bars, or staples may be used as anchors in accordance with the Streambank Reforestation Detail Sheets and as directed. Place anchors across the matting at ends, junctions, and check trenches approximately 1 ft. apart. Place anchors down the center of each strip of matting 3 ft. apart. Place anchors along all lapped edges 1 ft. apart. Refer to the Streambank Reforestation Detail Sheets for anchoring pattern. The Engineer may require adjustments in the trenching or anchoring requirements to fit individual site conditions.

During preparation of the live stakes, the basal ends shall be cleanly cut at an angle to facilitate easy insertion into the soil, while the tops shall be cut square or blunt for tamping. All limbs shall be removed from the sides of the live cutting prior to installation.

Live stakes shall be installed within 48 hours of cutting. Outside storage locations should be continually shaded and protected from wind and direct sunlight. Live cut plant material shall remain moist at all times before planting.

Stakes shall be spaced approximately 4 ft. on center. Live stakes shall be installed according to the configuration presented on the Streambank Reforestation Detail Sheets.

Tamp live stakes perpendicularly into the finished bank slope with a dead blow hammer, with buds oriented in an upward direction. Stakes should be tamped until approximately $\frac{3}{4}$ of the stake length is within the ground. The area around each live stake shall be compacted by foot after the live stake has been installed.

1"- 2" shall be cut cleanly off of the top of each live stake with loppers at an angle of approximately 15 degrees following installation. Any stakes that are split or damaged during installation shall be removed and replaced.

The bare root seedlings shall be planted as soon as practical following permanent *Seeding and Mulching*. The seedlings shall be planted from top of bank out, along both sides of the stream, as designated on the plans.

Root dip: The roots of reforestation seedlings shall be coated with a slurry of water, and either a fine clay (kaolin) or a superabsorbent that is designated as a bare root dip. The type, mixture ratio, method of application, and the time of application shall be submitted to the Engineer for approval.

With the approval of the Engineer, seedlings may be coated before delivery to the job or at the time of planting, but at no time shall the roots of the seedlings be allowed to dry out. The roots shall be moistened immediately prior to planting.

Seasonal Limitations: Streambank reforestation shall be planted from November 15 through March 15.

Measurement and Payment

Streambank Reforestation will be measured and paid for as the actual number of acres of land measured along the surface of the ground, which has been acceptably planted in accordance with this section.

Payment will be made under:

Pay Item	Pay Unit
Streambank Reforestation	Acre

FLOATING TURBIDITY CURTAIN:

Description

This work consists of furnishing a *Floating Turbidity Curtain* to deter silt suspension and movement of silt particles during construction. The floating turbidity curtain shall be constructed at locations as directed.

Materials

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

Property	Value
Grab tensile strength	*md-370 lbs *cd-250 lbs
Mullen burst strength	480 psi
Trapezoid tear strength	*md-100 lbs *cd-60 lbs
Apparent opening size	70 US standard sieve
Percent open area	4% permittivity 0.28 sec-1

C-4901A

Davidson County

100

*md - machine direction

*cd - cross machine direction

In the event that more than one width of fabric is required, a 6" overlap of the material shall also be required.

The curtain material shall be supported by a flotation material having over 29 lbs/ft buoyancy. The floating curtain shall have a 5/16" galvanized chain as ballast and dual 5/16" galvanized wire ropes with a heavy vinyl coating as load lines.

Construction Methods

The Contractor shall maintain the *Floating Turbidity Curtain* in a satisfactory condition until its removal is requested by the Engineer. The curtain shall extend to the bottom of the jurisdictional resource. Anchor the curtain according to manufacturer recommendations.

Measurement and Payment

Floating Turbidity Curtain will be measured and paid for as the actual number of square yards of curtain furnished as specified and accepted. Such price and payment will be full compensation for the work as described in this section including but not limited to furnishing all materials, tools, equipment, and all incidentals necessary to complete the work.

Payment will be made under:

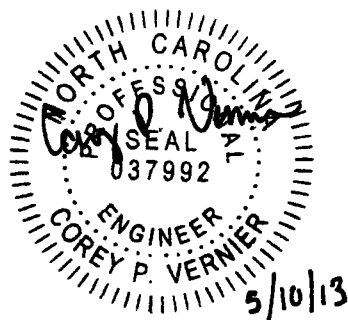
Pay Item	Pay Unit
Floating Turbidity Curtain	Square Yard

**RAILROAD SPECIAL PROVISIONS FOR
ROADBED**

TABLE OF CONTENTS

RAILROAD ROADBED

Railroad Roadbed	2
Clearing and Grubbing	2
Ownership of Materials	2
Excavation	2
Welded Steel Pipe	3
Welded Steel Pipe, Open Cut	5
Remove Existing Headwalls	6
Embankment	6
Bituminous Coated Corrugated Metal Pipe (BCCMP)	7
Sub-ballast	9
Maintenance of Track Roadbed	10
Railroad Track to be Removed	10
Temporary Roadbed Stabilization	11
Embankment Stabilization	11
Subsurface Drain	14
Endwalls	15
Articulating Concrete Block	15



RAILROAD ROADBED

The Standard Specifications for Roads and Structures, January 2012 of the North Carolina Department of Transportation, hereinafter referred to as the Standard Specifications, shall apply to the articles of the Project Special Provisions.

CLEARING AND GRUBBING:

The work shall be performed in accordance with Section 200, "Clearing and Grubbing", of the Standard Specifications, except that grubbing will be performed on all cleared excavation and embankment areas and will include all stumps, roots and other embedded debris. All debris from the clearing and grubbing operations, including stumps and roots, shall be disposed of at an existing public disposal site currently permitted by NCDENR.

OWNERSHIP OF MATERIALS

All salvaged material originally furnished by the Department's Contractor shall remain the property of the Contractor, and he shall give consideration to this when making his bid. All salvaged track materials owned by the Department's Contractor shall be disposed of by the Contractor, and the construction area shall be left in a neat and orderly condition.

All salvaged track material either existing or furnished by NSR is and shall remain the property of the NSR except as noted in the track to be removed section of the special provisions.

EXCAVATION

This work shall be performed in accordance with Section 225, "ROADWAY EXCAVATION" of the Standard Specifications. The applicable typical roadbed template will be maintained throughout the railway portion of the project.

Material excavated within the proximities of existing track(s), as defined in the table below, shall be used in embankment within the railroad right of way. Any of this material that is not used in construction of the project shall be disposed of within the railroad right of way within the project limits, and the contractor shall submit, to the Engineer for approval, a plan showing locations and methods of placement for this disposal.

The limits where this requirement applies are:

Begin Station	End Station	Left Limit	Right Limit
7571+81	7581+00	33' LT of Centerline Existing Main Track(s)	33' RT of Centerline Existing Main Track(s)
7580+00	7782+00	33' LT of Centerline Existing Main Track	20' RT of Centerline Existing Main Track
7782+00	7796+61	33' LT of Centerline Existing Spur Track	33' RT of Centerline Existing Spur Track

Project: TIP C-4901A

103

County: Davidson

*Revised 6-1-13***WELDED STEEL PIPE:****330-1 DESCRIPTION**

This work shall consist of furnishing and installing welded steel pipe by trenchless methods as shown in the contract, plans and as directed.

330-2 MATERIALS

Refer to Division 10.

Item**Section**

Welded Steel Pipe

1032-5

Use suppliers of metal pipe culverts, fittings and all other accessories covered by this section that meet the Department's Brand Certification program requirements for metal pipe culverts and are listed on the Materials and Tests Unit's pre-approved list for suppliers of metal pipe culvert. The pre-approved list is available on the Department's website

330-3 PIPE INSTALLATION

Replace section 330-3 of the 2012 Standard Specifications with the following:

The pipe shall be installed by dry boring and jacking under the tracks as shown in the plans. The pipe shall be carefully dry bored true to the line and grade given. The bore shall be held to a minimum to insure that there will be no settlement. All voids around the outside of the pipe shall be completely filled to the satisfaction of the Engineer.

The Contractor shall submit to the Railroad Engineer and the NCDOT Engineer a complete plan and schedule for pipe installation 2 weeks prior to the expected commencement of work. The submission shall include complete details of the sheeting, shoring and bracing for the protection of Railroad roadbed, materials and equipment pertinent to the operation. The Contractor shall not proceed with the pipe installation until he has received acceptance of the plan and schedule from the Railroad Engineer and the NCDOT Engineer.

Conduct a pre-construction meeting in the presence of the Railroad Engineer and the Engineer at least 48 hours before the beginning of the pipe installation to discuss the method of installation to assure the pipe is installed true to line and grade. The methods that will be used to insure there is no settlement of the pipe or the railroad roadbed section above the pipe.

All work shall be done with a RWIC/flagman on site and the work shall be performed during allowable work periods. Work shall stop when a train is passing. The Contractor shall have no claim against the Railroad or the Department for any delays caused by NSR's train operations.

The boring operation shall be progressed without stoppage (except for adding lengths of pipe) during daylight hours until the leading edge of the pipe has reached the receiving pit. The contractor shall plan his work to complete the boring between the influence lines of the track structure without stoppage. For the purpose of this provision, the influence line shall be defined as a 1:1 slope extending away from the track, from the bottom edge of tie. The contractor shall shore the leading end of the pipe when stopping work and shall continue the boring operation the morning of the next day. The installation

104

shall be carried on without interruption, insofar as practicable, to prevent the pipe from becoming firmly set in the embankment.

The front of the pipe shall be provided with mechanical arrangements or devices that will positively prevent the auger from leading the pipe so that no unsupported excavation is ahead of the pipe.

The auger and cutting head arrangement shall be removable from within the pipe in the event an obstruction is encountered. If the obstruction cannot be removed without excavation in advance of the pipe, the pipe shall be abandoned in place and immediately filled with grout. A new installation procedure and revised plans must be submitted to, and approved by, the Engineering Representative before work can resume.

The over-cut by the cutting head shall not exceed the outside diameter of the pipe by more than 1/2 inch. If voids should develop or if the bored hole diameter is greater than the outside diameter of the pipe by more than 1 inch, the voids shall be pressure grouted.

When boring and jacking pipe 36 inches and larger in diameter and the boring is halted within a distance less than 20 feet to the centerline of track, the heading shall be shored and braced if the track is active.

Any pipe damaged during the operation shall be removed and replaced by the Contractor at his expense.

The pits or trenches excavated to facilitate the pipe installation shall be backfilled immediately after the installation has been completed.

330-4 MEASUREMENT AND PAYMENT

 " *Welded Steel Pipe, " Thick, Grade B in Soil* will be measured and paid as the actual number of linear feet of pipe measured along the flow line to the nearest foot, which has been installed in soil.

 " *Welded Steel Pipe, " Thick, Grade B Not in Soil* will be measured and paid as the actual number of linear feet of pipe measured along the flow line to the nearest foot which has been installed in non-soil, as observed and confirmed by the Engineer. Non-soil is defined as all material other than soil. The Contractor shall request and obtain the Engineer's observation and confirmation of the limits of the installation not in soil before and during the installation of the pipe or portion of the pipe not in soil.

Failure of the Contractor to request and obtain the Engineer's observation and confirmation of the limits of the pipe not in soil before and during the installation will result in the payment at the unit price for " *Welded Steel Pipe, " Thick, Grade B Not in Soil.*

Such payment will include, but is not limited to, furnishing all labor, tools, equipment, materials and incidentals, miscellaneous grading or excavation necessary to complete the work.

105

Installations that become damaged or are abandoned will be replaced at no cost to the Department.

Payment will be made under:

Pay Item	Pay Unit
___" Welded Steel Pipe, ___" Thick, Grade B in Soil	Linear Foot
___" Welded Steel Pipe, ___" Thick, Grade B Not in Soil	Linear Foot

WELDED STEEL PIPE (Open Cut):**330-1 CRIPTION**

This work shall consist of furnishing and installing welded steel pipe in accordance with Section 300 of the 2012 NCDOT Standard Specifications as shown in the contract, plans and as directed.

330-2 MATERIALS

Refer to Division 10.

Item	Section
Welded Steel	Pipe 1032-
5	

Use suppliers of metal pipe culverts, fittings and all other accessories covered by this section that meet the Department's Brand Certification program requirements for metal pipe culverts and are listed on the Materials and Tests Unit's pre-approved list for suppliers of metal pipe culvert. The pre-approved list is available on the Department's website

330-3 PIPE INSTALLATION

The pipe shall be installed in accordance with Section 300 of the 2012 NCDOT Standard Specifications.

330-4 MEASUREMENT AND PAYMENT

___" *Welded Steel Pipe*, ___" *Thick, Grade B (Open Cut)* will be measured and paid as the actual number of linear feet of pipe measured along the flow line to the nearest foot.

Such payment will include, but is not limited to, furnishing all labor, tools, equipment, materials and incidentals, miscellaneous grading or excavation necessary to complete the work. Installations that become damaged or are abandoned will be replaced at no cost to the Department.

Payment will be made under:

Pay Item	Pay Unit
___" Welded Steel Pipe, ___" Thick, Grade B (Open Cut)	Linear Foot

106**REMOVE EXISTING HEADWALLS****(Special)****Description**

The contractor shall remove existing headwalls at locations shown on the plans.

Construction Methods

The contractor shall remove and dispose of existing headwalls at locations shown on the plans after the pipes they are attached to are abandoned and filled with flowable fill in accordance with the Standard Specifications.

Measurement and Payment

Remove Existing Headwalls will be paid for in accordance with Section 226, Grading, of the Standard Specifications.

Pay Item**Pay Unit**

Grading

Lump Sum (LS)

EMBANKMENT

This work shall be performed in accordance with Section 235, "EMBANKMENTS", of the Standard Specifications including the following:

All earth fills shall be made in uniform layers of not more than 6 inches thick after compaction. Rock may be placed in compacted layers of not more than 24 inches thick. Each fully compacted layer shall extend the full width of the cross section. Each layer shall be free from mud, snow, ice, or excessive (standing) water before a subsequent layer is placed.

Sandy or rocky material shall be spread in full width layers to form drainage planes from the center through the edge of the embankment. Pockets of open materials surrounded by more impervious material shall be avoided.

The fills shall be formed with suitable materials from on-site cuts and/or necessary suitable material from borrow pits. Organic material such as brush, stumps, roots and trees or other perishable items shall not be placed in embankments. Coal or organic shale shall not be included in the embankment. Bituminous material shall not be used in railroad embankment. In fill sections, after stripping the topsoil and organic material, the entire area which the embankment is to be placed shall be plowed and scarified for a minimum depth of 6 inches.

The initial lift and all future fill layers shall be compacted to 95 percent of maximum density per Standard Proctor in accordance with ASTM D698-T and AASHTO T 99, or 90 percent of maximum density per Modified Proctor in accordance with ASTM

D-1557AASHTO T180, except that a minimum of the top **2 feet of fill shall be compacted to 100 percent Standard Proctor.**

The top 12 inches of the subgrade in all cut sections that will be cut to subgrade elevation shall be plowed, scarified and compacted to 100 percent Standard Proctor. The Engineer shall determine the AASHTO test method to be used after review of the soil analysis.

The Contractor shall notify the Engineer of when fill layers are ready for compaction testing. Successive layers shall not be placed prior to an acceptable density being obtained on each layer. The moisture content of the soil shall be controlled as necessary to obtain the specified densities based upon the optimum moisture content for each material. Water shall be added to the soil when, in the opinion of the Engineer, additional moisture may be necessary to obtain the specified density. Soil that is too wet shall be allowed to dry or be worked by plowing, discing, harrowing, or other means to dry the material to a workable moisture content.

In the event a specified density is not obtained, the Engineer may order additional rolling, watering, or drying of the soil as necessary to obtain the specified density. Fill layers not meeting a specified density after additional working shall be removed and new material shall be placed and compacted to the specified density at no cost to the Department.

The Contractor may be restricted from using partial or completed roadbed as construction haul roads. Any embankment or roadbed that is damaged by hauling activities shall be repaired by the Contractor at no cost to the Department.

BITUMINOUS COATED CORRUGATED METAL PIPE (BCCMP) (Special)

DESCRIPTION

Furnish and install drainage pipe at locations and size called for in the contract documents. The work includes construction of joints and connections to other pipes, endwalls and drainage structures.

MATERIALS

Corrugated Steel Pipe

Corrugated steel culvert pipe and pipe arch shall meet ASTM A760, Type 1 pipe.

Corrugations shall be annular riveted with a profile of 2-2/3 inches x 1/2 inch unless otherwise specified.

Bituminous coating shall be applied to the inner and outer surfaces of the pipe and conform to

Project: TIP C-4901A

County: Davidson

108*Revised 6-11-13*

the requirements of AASHTO M 190, Type A.

Coupling bands shall be one or two piece annular corrugated, made from galvanized steel and fully bituminous coated, with a minimum width of 24 inches. Bands may be one gage lighter than the pipe gage. Bands shall be made of steel sheet conforming to ASTM Specification A 525 and AASHTO Designation M 218. Dimple band couplers shall not be used.

Coupling bands shall be fastened using a minimum of three (3) ½ inch diameter galvanized bolts. Culverts 48 inches and larger require 24 inch wide bands with a minimum of four (4) ½ inch diameter rods and "silo" type lugs.

Acceptance

Acceptance of corrugated steel culvert pipe and its accessories will be based on, but not limited to, visual inspections, classification requirements and check samples taken from material delivered to the project and conformance to the annual Brand Registration. Culvert pipe materials not meeting the above requirements will be rejected, unless written approval is obtained from the State Materials Engineer.

310-3 PIPE INSTALLATION

Install pipe, pipe tees and elbows according to Section 300 of NCDOT Standard Specifications including the following:

BCCMP with a diameter of 42 inches or larger shall be field strutted (if not manufacturer strutted). Ties and struts shall be removed by the Contractor upon completion of the embankment.

The Contractor shall submit to the Railroad Engineer and the NCDOT Engineer a complete plan and schedule for pipe installation 2 weeks prior to the expected commencement of work. The submission shall include complete details of the proposed inlet and outlet invert elevations and locations as fit to field conditions, bracing for the protection of Railroad roadbed, materials and equipment pertinent to the operation. The Contractor shall not proceed with the pipe installation until he has received acceptance of the plan and schedule from the Railroad Engineer and the NCDOT Engineer.

Where BCCMP has to be cut to achieve the proper length, such cutting shall be done with an abrasive saw so as to prevent damage to the pipe coating. Flame cutting shall not be permitted. Damage to the shop coating by this or any other work shall be field repaired by the Contractor by using asphalt paint. Repairs shall be at no cost to the Department or the Railroad.

310-6 MEASUREMENT AND PAYMENT

Pipe will be measured and paid as the actual number of linear feet of pipe that has been incorporated into the completed and accepted work. Measurement of pipe will be made by counting the number of joints used and multiplying by the length of the joint to obtain the number of linear feet of pipe installed and accepted. Measurements of partial joints will be made along the longest length of the partial joint to the nearest 0.1 ft. Select bedding and backfill material will be included in the cost of the installed pipe.

Payment will be made under:

Pay Item

___" B.C.C.M.P. Pipe Culverts, ___" Thick

Pay Unit

Linear Foot

109**SUB-BALLAST****(Special)****Description**

The Contractor will furnish and place sub-ballast as shown in the plans. The sub-ballast shall be placed after the subgrade has been graded, compacted and accepted.

Materials

The sub-ballast shall be composed of crusher-run, meeting the following requirements and the gradation shown in Table 1:

- Sub ballast shall be produced from sound rock meeting the gradations shown in the table 1 (AASHTO T 27 and T 11, AASHTO T 88 as modified for Base Course and Stabilizer).
- The material shall be free from organics and deleterious material (AASHTO T 112).
- The material shall not have a Liquid Limit (LL) in excess of 25 (AASHTO T 89) or a Plasticity Index (PI) in excess of 6 (AASHTO T 90).
- The material shall have a percentage of wear (LA Abrasion, AASHTO T 96) no greater than 50 percent.
- The material shall meet NCDOT's soundness requirements (AASHTO T 104).

	Percent Passing Standard Sieve Size by Weight					
Sieve Size	2"	1"	3/8"	#10	#40	#200
Sub-ballast	100	90-100	50-84	26-50	12-30	5-12

Table 1**Sub-ballast****Construction Methods**

After the subgrade has been finished to proper grade and cross-section, the sub-ballast shall be placed on the subgrade with a mechanical spreader capable of placing the material in a uniform loose depth and without segregation, except for areas inaccessible to a mechanical spreader. The aggregate material may be placed by other methods approved by the Engineer. The sub-ballast section shall be constructed in two layers of equal thickness. Each layer of sub-ballast shall be fully compacted in lifts not to exceed 6" in thickness after compaction. Each layer of sub-ballast shall be compacted to a density of 100% of the Standard Proctor determined by AASHTO T 180 and maintained to the required cross-section during compaction. Moisture content shall be maintained within 2% +/- of optimum moisture to obtain the desired density. Water shall be added to the material if necessary to obtain the desired density. If the material is too wet to obtain the desired density, the material shall be worked by discing, harrowing or other means to dry the material to a workable moisture content.

110**Measurement and Payment**

The quantity for *Sub-Ballast* to be paid for will be the actual number of tons of sub-ballast which has been used to construct the track roadbed sections, measured as provided for in Article 520-11 of the Standard Specifications. Such price and payment will be full compensation for all furnishing, weighing, hauling, and placing of sub-ballast and for any other work necessary for the construction of the track roadbed section.

Pay Item

Sub-ballast

Pay Unit

Ton

MAINTENANCE OF TRACK ROADBED

(Special)

The Contractor shall be responsible for the maintenance of the track roadbed during the construction period. Ditches and temporary pipes shall be provided and maintained as may be necessary to satisfactorily drain the sub-grade. Where previously approved sub-grade is damaged by natural causes, by hauling equipment or other traffic the Contractor shall restore the sub-grade to the required lines, grades and typical sections and to the required density at no additional cost to the Department. There will be no direct payment for maintenance of the track roadbed. All cost associated with maintaining the track roadbed will be incidental to other items of work.

RAILROAD TRACK TO BE REMOVED

(Special)

The Department's Contractor shall remove the existing main track as shown in the plans and dispose of the materials appropriately in accordance with local regulations.

Description

Furnish the labor, materials, tools and equipment necessary to remove the existing track which includes the rail, crossties, tie plates, anchors, spikes and disposal of the materials.

Ownership of Material

All salvaged material from the removal of the existing main track shall remain the property of the Department's Contractor except for the wooden cross ties. The cross ties will remain the property of NSR and shall be removed and neatly stacked at a location directed by the Railroad Engineer. The contractor shall give consideration to the salvage value of the materials when making his bid.

Measurement and Payment

Railroad Track to be Removed will be measured and paid for the actual number of track feet of track which is acceptably removed, measured between the rails along the center line

111

of the track prior to the track being removed.

Payment will be made under:

Pay Item	Pay Unit
Railroad Track to be Removed	TF

TEMPORARY ROADBED STABILIZATION**Description**

The contractor shall temporarily stabilize the existing railroad roadbed with additional sub-ballast while excavating adjacent to the existing track from station 7736+08 to station 7745+96 left as shown in the plans. The sub-ballast shall be placed in two equal lifts and each lift compacted at the direction of the engineer. The allowable length of existing railroad roadbed left unsupported during excavation work shall be at the discretion of the Norfolk Southern representative.

MEASUREMENT AND PAYMENT

The additional sub-ballast needed to stabilize the existing railroad roadbed will be measured and paid at the contract unit price per ton for sub-ballast in accordance with the Contract Special Provisions for sub-ballast.

Pay Item	Pay Unit
Sub-ballast	Tons

EMBANKMENT STABILIZATION (Station 7663+25 to Station 7673+15)**DESCRIPTION**

Construct the rock embankment from Station 7663+25 +/- to 7673+15 +/- in accordance with Section 235 of the 2012 Standard Specifications, to conform to the lines, grades and typical cross section shown in the plans. Work includes preparation, formation, compaction and maintenance of the embankment area.

MATERIALS

Refer to Division 10 of the 2012 Standard Specifications.

Section	Section
Rip Rap, Class B	1042
# 57 Stone	1016
Select Granular Material, Class III	1016
Geotextile for Soil Stabilization	1056

112

The Geotextile shall be a type 4, meeting the requirements and specifications in accordance with Section 1056 of the 2012 Standard Specifications. The contractor shall use a material on the NCDOT approved products list.

**CONSTRUCTION
METHODS**

Select Granular Material, Class III shall meet the requirements of Section 265 of the *Standard Specifications* for Select Material, Class III.

Rip Rap, Class B shall be placed by either back dumping or using a piece of equipment with a large bucket capable of placing the rip rap without entering the water in the inundated, unstable area shown on the plans. The initial lift shall be placed to an elevation approximately 6" above the water level. The contractor shall compact the rip rap with a large vibratory compactor (84" drum minimum) and 8 – 10 tons (or heavier). The compactor shall be used in the vibratory mode to make minimum of 6 complete passes or as required by the Engineer. Subsequent lifts of rip rap shall be placed in a similar manner and compacted until a stable condition is achieved at an elevation 6" above the water level.

After completing the placement and compaction of the rip rap, a lift of # 57 stone shall be placed over the rip rap approximately 12" deep and compacted with the 8-10 ton compactor making a minimum of 4 passes in the vibratory mode or to the satisfaction of the Engineer. Subsequent layers of #57 stone shall be placed and compacted until a stable condition is achieved at an elevation 12" above the top of the rip rap.

Place the geotextile on top of the # 57 stone layer before placing the Select Granular Material, Class III.

Grade the surface of the #57 stone to lines and grades shown on the plans, unless otherwise directed by the Engineer prior to placing the geotextile materials. The surface must be free of obstructions, debris, and large voids within the #57 stone. Do not leave geotextiles exposed for more than 7 days before covering geotextiles with backfill material.

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

Place geotextiles on surfaces free of obstructions, debris and soft pockets. Install geotextiles with the long dimension parallel to the roadway centerline. Overlap adjacent geotextiles at least 18" unless otherwise directed to sew seams together. Overlap geotextiles in the direction that material will be placed to prevent lifting the edge of the top geotextile. Overlap the previous fabric layer by a minimum of 12 inches. Where a layer of fabric becomes discontinuous, such as at the end of a roll, a minimum overlap of 12 inches is required with the upper fabric placed over the lower fabric. Lay the fabric smooth and free from tension, stress, folds, wrinkles, or creases. Use wire staples as needed to hold the fabric in place until it is covered with fill material. In the event fabric is displaced or damaged, reposition or replace the fabric at no additional cost to the Department.

Place geotextiles in slight tension free of kinks, folds, wrinkles or creases. Use wire staples or

113

anchor pins, as needed, to hold geotextiles in place until covered. Provide select granular material, Class III in accordance with the contract. Do not operate equipment on geotextiles until covered with material as directed. Do not use vibratory compaction equipment on initial lifts of backfill.

Place the select granular material, Class III in a 12 inch lift and compact with an 8-10 ton roller used in the static condition and compact it to the satisfaction of the Engineer.

Upon placing and compacting the select granular material, Class III continue to build the embankment in accordance with Section 235 of the 2012 Standard Specifications up through and including subgrade.

MEASUREMENT AND PAYMENT:

Rip Rap, Class B will be measured and paid for in accordance with Article 876-4 of the *Standard Specifications*.

#57 Stone will be measured and paid for in accordance with the Special Provision found elsewhere in the contract documents.

Geotextile for Soil Stabilization will be measured and paid for in accordance with Article 270-4 of the *Standard Specifications*.

Select Granular Material, Class III will be measured by in place measurement in accordance with Article 230-5 or by weighing material in trucks in accordance with Article 106-7 as determined by the Engineer. When select granular material is weighed in trucks, a unit weight of 135 lb/cf will be used to convert the weight of select granular material to cubic yards. At the Engineer's discretion, truck measurement in accordance with Article 230-5 may be used instead of weighing material in trucks.

The contract unit prices for *Select Granular Material, Class III* as described above will be full compensation for providing, transporting, handling, placing, compacting and maintaining select granular material.

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

PAY ITEM:**Pay Unit**

Select Granular Material, Class III

Cubic Yard

Project: TIP C-4901A

County: Davidson

114*Revised 6-11-13***SUBSURFACE DRAIN****DESCRIPTION**

Construct and install sub-surface drains, outlet pipes and concrete pads for outlet pipes, in accordance with the detail drawing in the plans and requirements of the contract.

MATERIALS

Refer to Division 10 of the 2012 NCDOT Standard Specifications

Item	Section
Shoulder Drain Aggregate, No. 57 Stone	1005
HDPE Subsurface Drain Pipe, Type S	1044-8
HDPE Outlet Pipe, Type S	1044-8
Geotextile for Subsurface Drains, Type 1	1056
Portland Cement Concrete, Class AA	1000

Material for the subsurface drain pipe and fittings shall be perforated 6" HDPE meeting AASHTO M 294, Type S.

CONSTRUCTION METHODS

Place and compact the sub-ballast in accordance with the plans and place and compact the 6" asphalt underlayment (where applicable) as shown on the plans. After placing the asphalt underlayment (where applicable), install the subsurface drain in accordance with the plans.

Excavate the trench to the width shown on the plans, and to the depth, line and grade established by the Engineer.

Place the geotextile in accordance with the detail in the plans. Do not leave fabric uncovered for more than 7 days. Install geotextile such that all splice joints are provided with a minimum overlap of 2 feet. Overlap the closure at the top of the trench at least 6 " and secure with mechanical ties. Where outlet pipe passes through the fabric, wrap a separate piece of fabric around the outlet pipe, flare against the side of the filled drain, and secure with anchor pins.

Anchor field splices of geotextile with anchor pins to ensure that required overlap is maintained.

Place 3" of the No. 57 stone as shown in the detail in the plans. Lay perforated pipe with the perforations down. Perform the remainder of the aggregate placement operations to prevent damage to the geotextile and pipe. Replace damaged sections of geotextile and pipe at no cost to the Department.

Outlet pipe shall meet the requirements of Article 1044-8. Connect the HDPE pipe with watertight neoprene connectors that are suitable for gravity flow conditions. Obtain approval for all pipe fittings from the Engineer prior to delivery. Protect the open end of all outlet pipes with a galvanized rodent screen.

Install outlet fittings and outlet pipes every 500' or as otherwise directed by the Engineer. Establish positive drainage within 72 hours of beginning trenching for installation of a given section of aggregate subsurface drain /shoulder drain. Failure to comply with this requirement may result in the Engineer restricting installation of additional sections of aggregate subsurface drain /shoulder drain until such time as the Contractor completes appropriate outlet installations.

115

Compact the aggregate to a degree acceptable to the Engineer by the use of a vibratory compactor before making the geotextile closure at the top of the trench.

Carefully place the No. 57 stone backfill material after the pipe has been laid and the geotextile is closed at the top, so that the pipe will not be disturbed by the backfilling operation. Compact the remainder of the backfill material (No. 57) stone to a degree acceptable to the Engineer by the use of a vibratory compactor.

Connect the outlet pipes to concrete pads at the outlet end of the subsurface drain. Construct the concrete pad in accordance with Section 825 and give an ordinary surface finish. Use Class AA concrete.

MEASUREMENT AND PAYMENT

Subsurface Drain will be measured and paid as the actual number of linear feet that has been completed and accepted, measured to the nearest foot along the centerline of the completed subsurface drain pipe. No measurement will be made along the outlet pipe.

Such price and payment includes, but is not limited to, furnishing, hauling, and placing all subsurface drain pipe, fittings, aggregate, geotextile, and other materials; making all joint connections and all excavation and backfilling.

Subdrain Pipe Outlet and 6" Outlet Pipe will be measured and paid for in accordance with Article 815-4 of the *Standard Specifications*.

Payment will be made under:

Pay Item

Subsurface Drain

Pay Unit

Linear Foot

ENDWALLS

The work shall be performed in accordance with Section 838, "Endwalls", of the Standard Specifications, except that the contractor shall not use Class B concrete or masonry to construct plain or reinforced endwalls located on the railroad right-of-way. All endwalls on the railroad right-of-way, cast-in-place or precast, shall be constructed of Class AA concrete.

ARTICULATING CONCRETE BLOCK**DESCRIPTION**

Construct and install articulating concrete block mat in accordance with the detail drawing in the plans and requirements of the contract.

116**MATERIALS**

Refer to Division 10 of the 2012 NCDOT Standard Specifications

Item	Section
Geotextile for Drainage, Type 2	1056
Seed	1060-4

The articulating concrete block material shall be ARMORFLEX® Class 70 as manufactured by ARMORTEC, SHORELOC® as manufactured by SHORETEC, L.L.C., or an approved equal.

CONSTRUCTION METHODS

Areas on which filter fabric and articulating concrete blocks are to be placed shall be constructed to the lines and grades shown on the plans. The subgrade for the articulating concrete blocks shall be free of voids, pits, or depressions and shall be compacted to 90% of the ASTM D 698 density. All obstructions, such as roots and projecting stones larger than one (1) inch remaining on the surface shall be removed and all of the soft or low density pockets of material removed must be filled with selected material and compacted to a minimum of 90% of the ASTM D 698 density. Excavation and preparation of embedment trenches shall be done in accordance to the lines, grades and dimensions shown in the plans.

Place the geotextile in accordance with the detail in the plans. Do not leave geotextile uncovered for more than 7 days. Install geotextile such that all splice joints are provided with a minimum overlap of 2 feet and secure with anchor pins.

The articulating concrete blocks shall be placed within the limits shown on the plans in such a manner as to produce a relatively planar surface. No overlapping of blocks will be accepted and no blocks shall project vertically more than one (1) inch beyond the adjacent blocks.

The voids of the articulating concrete blocks, for the limits shown on the plans, shall be filled with topsoil. The topsoil shall then be seeded in accordance with Section 1660 "Seeding and Mulching", of the Standard Specifications.

MEASUREMENT AND PAYMENT

Articulating Concrete Block will be measured and paid as the actual number of square yards that has been completed and accepted.

Such price and payment includes, but is not limited to, furnishing, hauling, and placing all concrete block, topsoil, seed, and other materials; making all joint connections and all excavation and backfilling.

Geotextile for Drainage will be measured and paid for in accordance with article 876-4 of the *Standard Specifications*.

Payment will be made under:

Pay Item	Pay Unit
Articulating Concrete Block	Square Yard

Project C-4901A

Davidson County

**PROJECT SPECIAL PROVISIONS
STRUCTURE**

Table of Contents

Item		Page #
Terms and Definitions	(SPECIAL)	2
Placing Load on Structure Members	(11-27-12)	3
Temporary Railroad Shoring	(3-6-09)	3
Falsework and Formwork	(4-5-12)	4
Submittal of Working Drawings	(2-10-12)	11
Crane Safety	(8-15-05)	17
Grout for Structures	(9-30-11)	18
Piles	(1-17-12)	20
Pile Excavation	(1-17-12)	26
Drilled Piers	(1-17-12)	28
Epoxy Mortar Repairs	(12-5-12)	42
Waterproofing	(SPECIAL)	44
Portland Cement	(SPECIAL)	44
Fine and Coarse Aggregate	(SPECIAL)	44
Waterstops	(SPECIAL)	44
Elastomeric Flashing	(SPECIAL)	45
Rubber Joint Compounds	(SPECIAL)	45
Structure Drainage System	(SPECIAL)	46
Backfilling Around Structures	(SPECIAL)	47
Self-Lubricating Expansion Bearing Assemblies	(SPECIAL)	48
Conduit in Parapets	(SPECIAL)	50
Concrete Parapet	(SPECIAL)	50
Metal Rail (Aluminum)	(SPECIAL)	50
Structural Steel	(SPECIAL)	51
Painting Structural Steel	(SPECIAL)	56
Metal Rail and Walkway	(SPECIAL)	63
Tie Rod System	(SPECIAL)	63



TERMS AND DEFINITIONS**(SPECIAL)**

Unless noted otherwise, the following terms and their associated definitions are applicable throughout these Project Special Provisions:

TermsDefinitions

Railway, Railway Company,
Railroad, Railroad Company

Norfolk Southern Corporation

Railroad Engineer

The authorized representative of the Railway.

AREMA

American Railway Engineering and
Maintenance-of-Way Association.

NCDOT, Department,
Department of Transportation

North Carolina Department of Transportation.

Standard Specifications,
Specifications

NCDOT Standard Specifications for Roads and
Structures, January 2012.

Engineer, Department's Engineer
Project Engineer, Highway Engineer

The authorized representative of the NCDOT.

Inspector, Department's Inspector

The authorized inspector of the NCDOT.

PLACING LOAD ON STRUCTURE MEMBERS**(11-27-12)**

The 2012 Standard Specifications shall be revised as follows:

In **Section 420-20 – Placing Load on Structure Members** replace the first sentence of the fifth paragraph with the following:

Do not place vehicles or construction equipment on a bridge deck until the deck concrete develops the minimum specified 28 day compressive strength and attains an age of at least 7 curing days.

TEMPORARY RAILROAD SHORING**(3-6-09)****1.0 GENERAL**

Provide temporary railroad shoring for each bent indicated in the plans in accordance with the Standard Specifications and this Special Provision.

2.0 ALTERNATE DESIGN AND PLANS

The submittal of an alternate design and plans for excavation and shoring is permitted in lieu of the excavation and shoring detailed on the plans. The alternate design shall be in accordance with the current railway design criteria. Have the alternate design computations and plans sealed by a North Carolina Registered Professional Engineer and submit them for review, comments and acceptance. After the appropriate State agency accepts them, they are submitted by the State agency to the Railroad for review, comments and acceptance. Allow a minimum of 30 days for the Railroad's review. Do not begin excavation at the excavation site or sites in question until the Engineer confirms that both the State and Railroad accept the alternate design and plans. No extension of intermediate completion dates and/or final completion dates will be allowed due to delays in review of alternate excavation and shoring design and plans.

3.0 BASIS OF PAYMENT

Payment for the temporary railroad shoring will be made at the lump sum price bid for "Temporary Railroad Shoring for Abutment 1, Sta. 7662+38.00 -M1-". Such lump sum price will be full compensation for all materials, equipment, tools, labor, and incidentals necessary to complete the work.

Payment for the temporary railroad shoring will be made at the lump sum price bid for "Temporary Railroad Shoring for Abutment 2, Sta. 7662+38.00 -M1-". Such lump sum price will be full compensation for all materials, equipment, tools, labor, and incidentals necessary to complete the work.

FALSEWORK AND FORMWORK**(4-5-12)****1.0 DESCRIPTION**

Use this Special Provision as a guide to develop temporary works submittals required by the Standard Specifications or other provisions; no additional submittals are required herein. Such temporary works include, but are not limited to, falsework and formwork.

Falsework is any temporary construction used to support the permanent structure until it becomes self-supporting. Formwork is the temporary structure or mold used to retain plastic or fluid concrete in its designated shape until it hardens. Access scaffolding is a temporary structure that functions as a work platform that supports construction personnel, materials, and tools, but is not intended to support the structure. Scaffolding systems that are used to temporarily support permanent structures (as opposed to functioning as work platforms) are considered to be falsework under the definitions given. Shoring is a component of falsework such as horizontal, vertical, or inclined support members. Where the term “temporary works” is used, it includes all of the temporary facilities used in bridge construction that do not become part of the permanent structure.

Design and construct safe and adequate temporary works that will support all loads imposed and provide the necessary rigidity to achieve the lines and grades shown on the plans in the final structure.

2.0 MATERIALS

Select materials suitable for temporary works; however, select materials that also ensure the safety and quality required by the design assumptions. The Engineer has authority to reject material on the basis of its condition, inappropriate use, safety, or nonconformance with the plans. Clearly identify allowable loads or stresses for all materials or manufactured devices on the plans. Revise the plan and notify the Engineer if any change to materials or material strengths is required.

3.0 DESIGN REQUIREMENTS**A. Working Drawings**

Provide working drawings for items as specified in the contract, or as required by the Engineer, with design calculations and supporting data in sufficient detail to permit a structural and safety review of the proposed design of the temporary work.

On the drawings, show all information necessary to allow the design of any component to be checked independently as determined by the Engineer.

When concrete placement is involved, include data such as the drawings of proposed sequence, rate of placement, direction of placement, and location of all construction joints. Submit the number of copies as called for by the contract.

When required, have the drawings and calculations prepared under the guidance of, and sealed by, a North Carolina Registered Professional Engineer who is knowledgeable in temporary works design.

If requested by the Engineer, submit with the working drawings manufacturer's catalog data listing the weight of all construction equipment that will be supported on the temporary work. Show anticipated total settlements and/or deflections of falsework and forms on the working drawings. Include falsework footing settlements, joint take-up, and deflection of beams or girders.

As an option for the Contractor, overhang falsework hangers may be uniformly spaced, at a maximum of 36 inches, provided the following conditions are met:

Member Type (PCG)	Member Depth, (inches)	Max. Overhang Width, (inches)	Max. Slab Edge Thickness, (inches)	Max. Screenshot Wheel Weight, (lbs.)	Bracket Min. Vertical Leg Extension, (inches)
II	36	39	14	2000	26
III	45	42	14	2000	35
IV	54	45	14	2000	44
MBT	63	51	12	2000	50
MBT	72	55	12	1700	48

Overhang width is measured from the centerline of the girder to the edge of the deck slab.

For Type II, III & IV prestressed concrete girders (PCG), 45-degree cast-in-place half hangers and rods must have a minimum safe working load of 6,000 lbs.

For MBT prestressed concrete girders, 45-degree angle holes for falsework hanger rods shall be cast through the girder top flange and located, measuring along the top of the member, 1'-2 1/2" from the edge of the top flange. Hanger hardware and rods must have a minimum safe working load of 6,000 lbs.

The overhang bracket provided for the diagonal leg shall have a minimum safe working load of 3,750 lbs. The vertical leg of the bracket shall extend to the point that the heel bears on the girder bottom flange, no closer than 4 inches from the bottom of the member. However, for 72-inch members, the heel of the bracket shall bear on the web, near the bottom flange transition.

Provide adequate overhang falsework and determine the appropriate adjustments for deck geometry, equipment, casting procedures and casting conditions.

If the optional overhang falsework spacing is used, indicate this on the falsework submittal and advise the girder producer of the proposed details. Failure to notify the

Engineer of hanger type and hanger spacing on prestressed concrete girder casting drawings may delay the approval of those drawings.

Falsework hangers that support concentrated loads and are installed at the edge of thin top flange concrete girders (such as bulb tee girders) shall be spaced so as not to exceed 75% of the manufacturer's stated safe working load. Use of dual leg hangers (such as Meadow Burke HF-42 and HF-43) are not allowed on concrete girders with thin top flanges. Design the falsework and forms supporting deck slabs and overhangs on girder bridges so that there will be no differential settlement between the girders and the deck forms during placement of deck concrete.

When staged construction of the bridge deck is required, detail falsework and forms for screed and fluid concrete loads to be independent of any previous deck pour components when the mid-span girder deflection due to deck weight is greater than $\frac{3}{4}$ ".

Note on the working drawings any anchorages, connectors, inserts, steel sleeves or other such devices used as part of the falsework or formwork that remains in the permanent structure. If the plan notes indicate that the structure contains the necessary corrosion protection required for a Corrosive Site, epoxy coat, galvanize or metalize these devices. Electroplating will not be allowed. Any coating required by the Engineer will be considered incidental to the various pay items requiring temporary works.

Design falsework and formwork requiring submittals in accordance with the 1995 AASHTO *Guide Design Specifications for Bridge Temporary Works* except as noted herein.

1. Wind Loads

Table 2.2 of Article 2.2.5.1 is modified to include wind velocities up to 110 mph. In addition, Table 2.2A is included to provide the maximum wind speeds by county in North Carolina.

Table 2.2 - Wind Pressure Values

Height Zone feet above ground	Pressure, lb/ft ² for Indicated Wind Velocity, mph				
	70	80	90	100	110
0 to 30	15	20	25	30	35
30 to 50	20	25	30	35	40
50 to 100	25	30	35	40	45
over 100	30	35	40	45	50

2. Time of Removal

The following requirements replace those of Article 3.4.8.2.

Do not remove forms until the concrete has attained strengths required in Article 420-16 of the Standard Specifications and these Special Provisions.

Do not remove forms until the concrete has sufficient strength to prevent damage to the surface.

Table 2.2A - Steady State Maximum Wind Speeds by Counties in North Carolina

COUNTY	25 YR (mph)	COUNTY	25 YR (mph)	COUNTY	25 YR (mph)
Alamance	70	Franklin	70	Pamlico	100
Alexander	70	Gaston	70	Pasquotank	100
Alleghany	70	Gates	90	Pender	100
Anson	70	Graham	80	Perquimans	100
Ashe	70	Granville	70	Person	70
Avery	70	Greene	80	Pitt	90
Beaufort	100	Guilford	70	Polk	80
Bertie	90	Halifax	80	Randolph	70
Bladen	90	Harnett	70	Richmond	70
Brunswick	100	Haywood	80	Robeson	80
Buncombe	80	Henderson	80	Rockingham	70
Burke	70	Hertford	90	Rowan	70
Cabarrus	70	Hoke	70	Rutherford	70
Caldwell	70	Hyde	110	Sampson	90
Camden	100	Iredell	70	Scotland	70
Carteret	110	Jackson	80	Stanley	70
Caswell	70	Johnston	80	Stokes	70
Catawba	70	Jones	100	Surry	70
Cherokee	80	Lee	70	Swain	80
Chatham	70	Lenoir	90	Transylvania	80
Chowan	90	Lincoln	70	Tyrell	100
Clay	80	Macon	80	Union	70
Cleveland	70	Madison	80	Vance	70
Columbus	90	Martin	90	Wake	70
Craven	100	McDowell	70	Warren	70
Cumberland	80	Mecklenburg	70	Washington	100
Currituck	100	Mitchell	70	Watauga	70
Dare	110	Montgomery	70	Wayne	80
Davidson	70	Moore	70	Wilkes	70
Davie	70	Nash	80	Wilson	80
Duplin	90	New Hanover	100	Yadkin	70
Durham	70	Northampton	80	Yancey	70
Edgecombe	80	Onslow	100		
Forsyth	70	Orange	70		

B. Review and Approval

The Engineer is responsible for the review and approval of temporary works' drawings.

Submit the working drawings sufficiently in advance of proposed use to allow for their review, revision (if needed), and approval without delay to the work.

The time period for review of the working drawings does not begin until complete drawings and design calculations, when required, are received by the Engineer.

Do not start construction of any temporary work for which working drawings are required until the drawings have been approved. Such approval does not relieve the Contractor of the responsibility for the accuracy and adequacy of the working drawings.

4.0 CONSTRUCTION REQUIREMENTS

All requirements of Section 420 of the Standard Specifications apply.

Construct temporary works in conformance with the approved working drawings. Ensure that the quality of materials and workmanship employed is consistent with that assumed in the design of the temporary works. Do not weld falsework members to any portion of the permanent structure unless approved. Show any welding to the permanent structure on the approved construction drawings.

Provide tell-tales attached to the forms and extending to the ground, or other means, for accurate measurement of falsework settlement. Make sure that the anticipated compressive settlement and/or deflection of falsework does not exceed 1 inch. For cast-in-place concrete structures, make sure that the calculated deflection of falsework flexural members does not exceed 1/240 of their span regardless of whether or not the deflection is compensated by camber strips.

A. Maintenance and Inspection

Inspect and maintain the temporary work in an acceptable condition throughout the period of its use. Certify that the manufactured devices have been maintained in a condition to allow them to safely carry their rated loads. Clearly mark each piece so that its capacity can be readily determined at the job site.

Perform an in-depth inspection of an applicable portion(s) of the temporary works, in the presence of the Engineer, not more than 24 hours prior to the beginning of each concrete placement. Inspect other temporary works at least once a month to ensure that they are functioning properly. Have a North Carolina Registered Professional Engineer inspect the cofferdams, shoring, sheathing, support of excavation structures, and support systems for load tests prior to loading.

B. Foundations

Determine the safe bearing capacity of the foundation material on which the supports for temporary works rest. If required by the Engineer, conduct load tests to verify proposed bearing capacity values that are marginal or in other high-risk situations.

The use of the foundation support values shown on the contract plans of the permanent structure is permitted if the foundations are on the same level and on the same soil as those of the permanent structure.

Allow for adequate site drainage or soil protection to prevent soil saturation and washout of the soil supporting the temporary works supports.

If piles are used, the estimation of capacities and later confirmation during construction using standard procedures based on the driving characteristics of the pile is permitted. If preferred, use load tests to confirm the estimated capacities; or, if required by the Engineer conduct load tests to verify bearing capacity values that are marginal or in other high risk situations.

The Engineer reviews and approves the proposed pile and soil bearing capacities.

5.0 REMOVAL

Unless otherwise permitted, remove and keep all temporary works upon completion of the work. Do not disturb or otherwise damage the finished work.

Remove temporary works in conformance with the contract documents. Remove them in such a manner as to permit the structure to uniformly and gradually take the stresses due to its own weight.

6.0 METHOD OF MEASUREMENT

Unless otherwise specified, temporary works will not be directly measured.

7.0 BASIS OF PAYMENT

Payment at the contract unit prices for the various pay items requiring temporary works will be full compensation for the above falsework and formwork.

SUBMITTAL OF WORKING DRAWINGS**(2-10-12)****1.0 GENERAL**

Submit working drawings in accordance with Article 105-2 of the *Standard Specifications* and this provision. For this provision, “submittals” refers to only those listed in this provision. The list of submittals contained herein does not represent a list of required submittals for the project. Submittals are only necessary for those items as required by the contract. Make submittals that are not specifically noted in this provision directly to the Resident Engineer. Either the Structure Design Unit or the Geotechnical Engineering Unit or both units will jointly review submittals.

If a submittal contains variations from plan details or specifications or significantly affects project cost, field construction or operations, discuss the submittal with and submit all copies to the Resident Engineer. State the reason for the proposed variation in the submittal. To minimize review time, make sure all submittals are complete when initially submitted. Provide a contact name and information with each submittal. Direct any questions regarding submittal requirements to the Resident Engineer, Structure Design Unit contacts or the Geotechnical Engineering Unit contacts noted below.

In order to facilitate in-plant inspection by NCDOT and approval of working drawings, provide the name, address and telephone number of the facility where fabrication will actually be done if different than shown on the title block of the submitted working drawings. This includes, but is not limited to, precast concrete items, prestressed concrete items and fabricated steel or aluminum items.

2.0 ADDRESSES AND CONTACTS

For submittals to the Structure Design Unit, use the following addresses:

Via US mail:

Mr. G. R. Perfetti, P. E.
State Bridge Design Engineer
North Carolina Department
of Transportation
Structure Design Unit
1581 Mail Service Center
Raleigh, NC 27699-1581

Attention: Mr. P. D. Lambert, P. E.

Via other delivery service:

Mr. G. R. Perfetti, P. E.
State Bridge Design Engineer
North Carolina Department
of Transportation
Structure Design Unit
1000 Birch Ridge Drive
Raleigh, NC 27610

Attention: Mr. P. D. Lambert, P. E.

Submittals may also be made via email.

Send submittals to:

plambert@ncdot.gov (Paul Lambert)

Send an additional e-copy of the submittal to the following address:

jgaither@ncdot.gov (James Gaither)

jlbolden@ncdot.gov (James Bolden)

For submittals to the Geotechnical Engineering Unit, use the following addresses:

For projects in Divisions 1-7, use the following Eastern Regional Office address:

Via US mail:

Mr. K. J. Kim, Ph. D., P. E.
Eastern Regional Geotechnical
Manager
North Carolina Department
of Transportation
Geotechnical Engineering Unit
Eastern Regional Office
1570 Mail Service Center
Raleigh, NC 27699-1570

Via other delivery service:

Mr. K. J. Kim, Ph. D., P. E.
Eastern Regional Geotechnical
Manager
North Carolina Department
of Transportation
Geotechnical Engineering Unit
Eastern Regional Office
3301 Jones Sausage Road, Suite 100
Garner, NC 27529

For projects in Divisions 8-14, use the following Western Regional Office address:

Via US mail:

Mr. John Pilipchuk, L. G., P. E.
Western Regional Geotechnical
Manager
North Carolina Department
of Transportation
Geotechnical Engineering Unit
Western Regional Office
5253 Z Max Boulevard
Harrisburg, NC 28075

Via other delivery service:

Mr. John Pilipchuk, L. G., P. E.
Western Region Geotechnical
Manager
North Carolina Department
of Transportation
Geotechnical Engineering Unit
Western Regional Office
5253 Z Max Boulevard
Harrisburg, NC 28075

The status of the review of structure-related submittals sent to the Structure Design Unit can be viewed from the Unit's web site, via the "Contractor Submittal" link.

Direct any questions concerning submittal review status, review comments or drawing markups to the following contacts:

Primary Structures Contact:

Paul Lambert (919) 707 – 6407
(919) 250 – 4082 facsimile
plambert@ncdot.gov

Secondary Structures Contacts: James Gaither (919) 707 – 6409
 James Bolden (919) 707 – 6408

Eastern Regional Geotechnical Contact (Divisions 1-7):
 K. J. Kim (919) 662 – 4710
 (919) 662 – 3095 facsimile
 kkim@ncdot.gov

Western Regional Geotechnical Contact (Divisions 8-14):
 John Pilipchuk(704) 455 – 8902
 (704) 455 – 8912 facsimile
 jpilipchuk@ncdot.gov

3.0 SUBMITTAL COPIES

Furnish one complete copy of each submittal, including all attachments, to the Resident Engineer. At the same time, submit the number of hard copies shown below of the same complete submittal directly to the Structure Design Unit and/or the Geotechnical Engineering Unit.

The first table below covers “Structure Submittals”. The Resident Engineer will receive review comments and drawing markups for these submittals from the Structure Design Unit. The second table in this section covers “Geotechnical Submittals”. The Resident Engineer will receive review comments and drawing markups for these submittals from the Geotechnical Engineering Unit.

Unless otherwise required, submit one set of supporting calculations to either the Structure Design Unit or the Geotechnical Engineering Unit unless both units require submittal copies in which case submit a set of supporting calculations to each unit. Provide additional copies of any submittal as directed.

STRUCTURE SUBMITTALS

Submittal	Copies Required by Structure Design Unit	Copies Required by Geotechnical Engineering Unit	Contract Reference Requiring Submittal ¹
Arch Culvert Falsework	5	0	Plan Note, SN Sheet & “Falsework and Formwork”
Box Culvert Falsework ⁷	5	0	Plan Note, SN Sheet & “Falsework and Formwork”
Cofferdams	6	2	Article 410-4
Foam Joint Seals ⁶	9	0	“Foam Joint Seals”

Project C-4901A**130****Davidson County**

Expansion Joint Seals (hold down plate type with base angle)	9	0	“Expansion Joint Seals”
Expansion Joint Seals (modular)	2, then 9	0	“Modular Expansion Joint Seals”
Expansion Joint Seals (strip seals)	9	0	“Strip Seals”
Falsework & Forms ² (substructure)	8	0	Article 420-3 & “Falsework and Formwork”
Falsework & Forms (superstructure)	8	0	Article 420-3 & “Falsework and Formwork”
Girder Erection over Railroad	5	0	Railroad Provisions
Maintenance and Protection of Traffic Beneath Proposed Structure	8	0	“Maintenance and Protection of Traffic Beneath Proposed Structure at Station ____”
Metal Bridge Railing	8	0	Plan Note
Metal Stay-in-Place Forms	8	0	Article 420-3
Metalwork for Elastomeric Bearings ^{4,5}	7	0	Article 1072-8
Miscellaneous Metalwork ^{4,5}	7	0	Article 1072-8
Optional Disc Bearings ⁴	8	0	“Optional Disc Bearings”
Overhead and Digital Message Signs (DMS) (metalwork and foundations)	13	0	Applicable Provisions
Placement of Equipment on Structures (cranes, etc.)	7	0	Article 420-20
Pot Bearings ⁴	8	0	“Pot Bearings”
Precast Concrete Box Culverts	2, then 1 reproducible	0	“Optional Precast Reinforced Concrete Box Culvert at Station ____”
Prestressed Concrete Cored Slab (detensioning sequences) ³	6	0	Article 1078-11
Prestressed Concrete Deck Panels	6 and	0	Article 420-3

Project C-4901A

131

Davidson County

	1 reproducible		
Prestressed Concrete Girder (strand elongation and detensioning sequences)	6	0	Articles 1078-8 and 1078- 11
Removal of Existing Structure over Railroad	5	0	Railroad Provisions
Revised Bridge Deck Plans (adaptation to prestressed deck panels)	2, then 1 reproducible	0	Article 420-3
Revised Bridge Deck Plans (adaptation to modular expansion joint seals)	2, then 1 reproducible	0	“Modular Expansion Joint Seals”
Sound Barrier Wall (precast items)	10	0	Article 1077-2 & “Sound Barrier Wall”
Sound Barrier Wall Steel Fabrication Plans ⁵	7	0	Article 1072-8 & “Sound Barrier Wall”
Structural Steel ⁴	2, then 7	0	Article 1072-8
Temporary Detour Structures	10	2	Article 400-3 & “Construction, Maintenance and Removal of Temporary Structure at Station ____”
TFE Expansion Bearings ⁴	8	0	Article 1072-8

FOOTNOTES

1. References are provided to help locate the part of the contract where the submittals are required. References in quotes refer to the provision by that name. Articles refer to the *Standard Specifications*.
2. Submittals for these items are necessary only when required by a note on plans.
3. Submittals for these items may not be required. A list of pre-approved sequences is available from the producer or the Materials & Tests Unit.
4. The fabricator may submit these items directly to the Structure Design Unit.
5. The two sets of preliminary submittals required by Article 1072-8 of the *Standard Specifications* are not required for these items.
6. Submittals for Fabrication Drawings are not required. Submittals for Catalogue Cuts of Proposed Material are required. See Section 5.A of the referenced provision.
7. Submittals are necessary only when the top slab thickness is 18” or greater.

Project C-4901A

132

Davidson County

GEOTECHNICAL SUBMITTALS

Submittal	Copies Required by Geotechnical Engineering Unit	Copies Required by Structure Design Unit	Contract Reference Requiring Submittal ¹
Drilled Pier Construction Plans ²	1	0	Subarticle 411-3(A)
Crosshole Sonic Logging (CSL) Reports ²	1	0	Subarticle 411-5(A)(2)
Pile Driving Equipment Data Forms ^{2,3}	1	0	Subarticle 450-3(D)(2)
Pile Driving Analyzer (PDA) Reports ²	1	0	Subarticle 450-3(F)(3)
Retaining Walls ⁴	8 drawings, 2 calculations	2 drawings	Applicable Provisions
Temporary Shoring ⁴	5 drawings, 2 calculations	2 drawings	“Temporary Shoring” & “Temporary Soil Nail Walls”

FOOTNOTES

1. References are provided to help locate the part of the contract where the submittals are required. References in quotes refer to the provision by that name. Subarticles refer to the *Standard Specifications*.
2. Submit one hard copy of submittal to the Resident or Bridge Maintenance Engineer. Submit a second copy of submittal electronically (PDF via email) or by facsimile, US mail or other delivery service to the appropriate Geotechnical Engineering Unit regional office. Electronic submission is preferred.
3. The Pile Driving Equipment Data Form is available from:
www.ncdot.org/doh/preconstruct/highway/geotech/formdet/
See second page of form for submittal instructions.
4. Electronic copy of submittal is required. See referenced provision.

CRANE SAFETY**(8-15-05)**

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 and all applicable items listed below must be updated and submitted prior to continuing with crane operations.

CRANE SAFETY SUBMITTAL LIST

- A. **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.
- B. **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.
- C. **Crane Inspections:** Inspection records for all cranes shall be current and readily accessible for review upon request.
- D. **Certifications:** By July 1, 2006, 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.

GROUT FOR STRUCTURES**9-30-11****1.0 DESCRIPTION**

This special provision addresses grout for use in pile blockouts, grout pockets, shear keys, dowel holes and recesses for structures. This provision does not apply to grout placed in post-tensioning ducts for bridge beams, girders, or decks. Mix and place grout in accordance with the manufacturer's recommendations, the applicable sections of the Standard Specifications and this provision.

2.0 MATERIAL REQUIREMENTS

Use a Department approved pre-packaged, non-shrink, non-metallic grout. Contact the Materials and Tests Unit for a list of approved pre-packaged grouts and consult the manufacturer to determine if the pre-packaged grout selected is suitable for the required application.

When using an approved pre-packaged grout, a grout mix design submittal is not required.

The grout shall be free of soluble chlorides and contain less than one percent soluble sulfate. Supply water in compliance with Article 1024-4 of the Standard Specifications.

Aggregate may be added to the mix only where recommended or permitted by the manufacturer and Engineer. The quantity and gradation of the aggregate shall be in accordance with the manufacturer's recommendations.

Admixtures, if approved by the Department, shall be used in accordance with the manufacturer's recommendations. The manufacture date shall be clearly stamped on each container. Admixtures with an expired shelf life shall not be used.

The Engineer reserves the right to reject material based on unsatisfactory performance.

Initial setting time shall not be less than 10 minutes when tested in accordance with ASTM C266.

Test the expansion and shrinkage of the grout in accordance with ASTM C1090. The grout shall expand no more than 0.2% and shall exhibit no shrinkage. Furnish a Type 4 material certification showing results of tests conducted to determine the properties listed in the Standard Specifications and to assure the material is non-shrink.

Unless required elsewhere in the contract the compressive strength at 3 days shall be at least 5000 psi. Compressive strength in the laboratory shall be determined in accordance with ASTM C109 except the test mix shall contain only water and the dry manufactured material. Compressive strength in the field will be determined by molding and testing 4" x 8" cylinders in accordance with AASHTO T22. Construction loading and traffic loading shall not be allowed until the 3 day compressive strength is achieved.

When tested in accordance with ASTM C666, Procedure A, the durability factor of the grout shall not be less than 80.

3.0 SAMPLING AND PLACEMENT

Place and maintain components in final position until grout placement is complete and accepted. Concrete surfaces to receive grout shall be free of defective concrete, laitance, oil, grease and other foreign matter. Saturate concrete surfaces with clean water and remove excess water prior to placing grout.

Do not place grout if the grout temperature is less than 50°F or more than 90°F or if the air temperature measured at the location of the grouting operation in the shade away from artificial heat is below 45°F.

Provide grout at a rate that permits proper handling, placing and finishing in accordance with the manufacturer's recommendations unless directed otherwise by the Engineer. Use grout free of any lumps and undispersed cement. Agitate grout continuously before placement.

Control grout delivery so the interval between placing batches in the same component does not exceed 20 minutes.

The Engineer will determine the locations to sample grout and the number and type of samples collected for field and laboratory testing. The compressive strength of the grout will be considered the average compressive strength test results of 3 cube or 2 cylinder specimens at 28 days.

4.0 BASIS OF PAYMENT

No separate payment will be made for "Grout for Structures". The cost of the material, equipment, labor, placement, and any incidentals necessary to complete the work shall be considered incidental to the structure item requiring grout.

PILES

(1-17-12)

Revise the *Standard Specifications* as follows:

Replace Section 450 with the following:

**SECTION 450
PILES**

450-1 DESCRIPTION

Furnish and drive bearing piles as shown on the plans and as directed by the Engineer to the required bearing and penetration. Furnish, weld, and attach steel pile points, pipe pile plates, pile tips and splicers; provide collars, hardware, concrete, reinforcing steel, and all other materials; furnish all equipment, preauger through embankments, install piles vertically or on a batter; galvanize, cut off, splice, and build up piles; place concrete and reinforcing steel; construct pile trestles; furnish and place temporary bracing; remove any obstructions; wrap, bolt, or fasten timber fender piles; and abandon, remove, replace, and restrike or redrive piles as necessary.

450-2 MATERIALS

Refer to Division 10.

Item	Section
Portland Cement Concrete	1000
Reinforcing Steel	1070
Timber, Steel and Prestressed Concrete Piles	1084-1
Steel Pipe Pile Plates	1072

450-3 PREPARATION FOR DRIVING

If applicable, completely excavate for the cap and/or footing before installing piles. If applicable and unless noted otherwise on the plans, construct the embankment to the bottom of cap or footing elevation for a horizontal distance of 50 ft (15 m) from any pile except where fill slopes are within 50 ft (15 m) of a pile. If preaugering through an embankment is necessary before driving prestressed concrete piles, submit the preaugering and pile installation methods with the proposed pile driving methods and equipment for approval.

450-4 DETERMINATION OF PILE LENGTH

The estimated total pile lengths per structure shown on the plans are for bid purposes only. Determine pile lengths and furnish piling of sufficient length to obtain the required bearing and penetration and the required embedment into the cap or footing as shown on the plans. As an option and at no cost to the Department, make investigations as necessary to determine the required pile lengths.

450-5 DRIVING EQUIPMENT

Submit the proposed pile driving methods and equipment including the pile driving hammer, hammer cushion, pile helmet and cushion, if any. Do not submit more than two pile driving hammers per pile type per submittal. Submit this information for approval at least 20 working days before driving piles. All equipment is subject to satisfactory field performance.

Drive bearing piles with approved driving equipment using steam, air, or diesel hammers. Use pile driving hammers with an energy that will not overstress the piles during driving and provide the required driving resistance at blows per foot ranging from 36 to 96, unless otherwise approved. Use a variable energy hammer to drive prestressed concrete piles.

Operate steam, air, or diesel hammers at the length of stroke and number of blows per minute required by the Engineer. Operate air and steam hammers within 10% of the manufacturer's rated speed in blows per minute or the rate approved by the Engineer.

Provide plant and equipment for air or steam hammers with sufficient capacity to maintain, under working conditions, the volume and pressure specified by the manufacturer. Equip the plant and equipment with accurate pressure gauges that are easily accessible. Use striking parts of air and steam hammers that weigh at least 1/3 the weight of the pile helmet and pile, with a minimum weight of 2,750 lb (1,250 kg).

Equip open-end (single acting) diesel hammers with a graduated scale (jump stick) extending above the ram cylinder, graduated rings or grooves on the ram, or an electric sound activated remote measuring instrument to allow the Engineer to visually determine hammer stroke at all times during pile driving operations.

Equip closed-end (double acting) diesel hammers with a calibrated bounce chamber pressure gauge, in good working order, mounted near ground level and easily read by the Engineer. Also, provide a current calibrated chart or graph equating bounce chamber pressure and gauge hose length to equivalent energy for the closed-end diesel hammer used. Submit this chart or graph with the proposed pile driving methods and equipment required above.

Protect and hold pile heads in position with an approved pile helmet. Make sure that the pile helmet closely fits the top of the pile and extends down the sides of the pile a sufficient distance to hold the pile in position. Protect the heads of concrete and timber piles from direct impact with an approved pile cushion. Provide collars or bands to protect timber piles against splitting or brooming where required.

450-6 ACCURACY OF DRIVING

Drive piles so that the axial alignment is within 1/4" (6 mm) per foot from the vertical or batter shown on the plans. Horizontally, keep the pile within 3" (75 mm) of the plan location longitudinally and transversely. Maintain pile embedment in the cap or footing to within 3" (75 mm) more or 2" (50 mm) less than that shown on the plans. No additional payment is made for increased cap or footing dimensions necessary due to piles driven out of position.

450-7 CONSTRUCTION METHODS

(A) General

Unless approved otherwise or directed by the Engineer, do not drive piles within 50 ft (15 m) of cast-in-place concrete until the concrete attains an age of at least 3 curing days. When approved by the Engineer, the Contractor may use vibratory hammers to install the initial portions of steel piles. The Engineer will approve the depth of pile installation with the vibratory hammer. Do not use vibratory hammers to install prestressed concrete piles.

The Engineer will inspect the capblock before beginning each pile driving project and periodically throughout the duration of the project, depending on driving conditions as

determined by the Engineer. Expose the hammer cushion for inspection as directed by the Engineer. Replace or repair any hammer cushion that is less than 25% of the original thickness.

Do not exceed the allowable pile driving stresses during the entire driving time. Allowable pile driving stresses are defined in the *AASHTO Standard Specifications for Highway Bridges*. Drive piles to the required tip elevation or penetration into natural ground, whichever is lower, in a continuous operation unless stopped due to exceeding the maximum blow count or the allowable pile driving stresses, insufficient pile length, or other reasons approved by the Engineer. Once the required embedment is achieved, the Engineer may require the Contractor to stop driving and wait before restriking to allow for soil setup.

Use a pile cushion made of pine plywood with a 4" (100 mm) minimum thickness for driving prestressed concrete piles. When using a pile cushion, provide a new cushion for each pile unless otherwise approved. Replace the pile cushion if, during the driving of any pile, the cushion is either compressed more than one-half the original thickness or begins to burn.

Redrive any pile raised or moved laterally by the driving of adjacent piles.

(B) Timber Piles

Store and handle timber piles by methods that do not damage the pile. Take care to avoid breaking the surface of treated piles. Do not use cant-hooks, dogs, or pike-poles. Treat cuts or breaks in the surface of treated piles in an approved manner.

Cut off the tops of all piles at the elevation shown on the plans. Except where a cast-in-place concrete cap or footing is constructed, cut off piles to a plane that provides true bearing on every pile without the use of shims. Withdraw any pile damaged during driving operations, driven out of its proper location or below the cut-off grade and replace with a new pile, or otherwise correct as directed by the Engineer.

Thoroughly brush-coat the sawn surface of all timber piles not encased in concrete with 3 applications of approved preservative treatment and then cover with a coat of hot roofing pitch or other approved hot bituminous material. Place a sheet of galvanized iron or aluminum upon each pile head, bend it down over the sides of the pile, neatly trim and firmly secure to the pile with large headed galvanized roofing nails. Use sheets of iron that are 24 gauge and 24" (600 mm) by 24" (600 mm) in size. If using aluminum, use the same size as specified for galvanized iron sheets with a minimum thickness of 0.032" (0.81 mm).

(C) Prestressed Concrete Piles

Handle, transport, and store prestressed concrete piles by methods that do not damage the pile and support the piles at the pick-up points shown on the plans or along their full length. Replace piles damaged in handling or driving unless they are repaired to an acceptable condition.

When driving or cutting off piles below the elevation shown on the plans, build up the pile section to the plan elevation as shown on the plans unless otherwise directed by the Engineer.

Cut off piles not driven to grade perpendicular to the axis of the pile by means that do not result in spalling or other damage to the pile. Use steel pile tips with prestressed concrete piles when shown on the plans. Use pile splicers for splicing steel pile tips. Contact the Materials and Tests Unit for a list of approved pile splicers. Submit pile splicer specifications with the manufacturer's attachment detail to the Engineer for approval before installation.

(D) Steel Piles

Handle and store steel piles by methods that do not damage the pile. Store the piles above ground upon platforms, blocks, or other supports and keep the piles free from dirt, grease, and other foreign matter, and protect insofar as is practicable from corrosion. Do not damage coatings on steel piles. Protect coatings when driving piles through templates in an approved manner.

When shown on the plans, galvanize steel piles in accordance with Section 1076. Prepare the pile surface and provide materials in accordance with the applicable portions of this section.

Use pile points for steel piles when shown on the plans or as directed by the Engineer. Contact the Materials and Tests Unit for a list of approved pile points. Weld pile points to piles in accordance with the manufacturers' details as approved by the Engineer. The minimum weld length is twice the width of the flange.

Furnish plates for pipe piles when shown on the plans or as directed by the Engineer. Weld plates to the bottom of pipe piles as shown on the plans. Use pipe pile plates with a thickness as shown on the plans and that meets the requirements of ASTM A709, Grade 50.

Cut off piles at the required elevations along a plane normal to the axis of the pile. Use approved methods for cutting off piles.

Use welded butt splices for steel piles as shown on the plans. Do not use more than 3 pieces (2 splices) of steel pile in making up one full-length pile.

(E) Redriving Piles

Once the required pile embedment has been achieved, the Contractor may choose to or the Engineer may require restriking or redriving piles. If the Contractor chooses to stop driving and then restrike or redrive piles, no payment will be made for restrikes or redrives. If the Engineer requires the Contractor to stop driving and then restrike or redrive piles, the payment will be made in accordance with Article 450-9. When the Engineer requires restrikes or redrives, the Engineer will determine the time to wait after stopping driving and the number of restrikes or redrives. However, the maximum number of restrikes or redrives per pile during any 48 hour period will not exceed three. The minimum time separation between redrives required by the Engineer is 4 hours.

Use the same approved pile driving methods, equipment and compressed pile cushion from the previous drive to restrike or redrive the pile unless the cushion is unacceptable due to deterioration, in which case use another acceptable cushion. Do not use a cold diesel hammer for a restrike or redrive, unless in the opinion of the Engineer, it is impractical to do otherwise. In general, warm up the hammer by applying at least 20

blows to a previously driven pile or timber mats on the ground.

450-8 PENETRATION AND WAVE EQUATION

When no tip elevation is shown on the plans, drive piles to the required bearing capacity and a penetration of at least 10 ft (3 m) into natural ground unless otherwise directed by the Engineer. When a tip elevation is shown on the plans, drive piles to the required bearing capacity and the specified tip elevation. When noted on the plans, drive piles to additional capacity to account for downdrag or negative skin friction and scour.

Natural ground within an area of new embankment is defined as the bottom of the embankment or bottom of footing on piles, whichever is lower.

The Engineer will use the wave equation analysis to evaluate the suitability of the proposed pile driving methods and equipment to evaluate pile driving stresses and estimate the driving resistance in order to achieve the required bearing capacity. The required driving resistance in blows per foot or any equivalent set is based upon the bearing capacity shown on the plans with a minimum safety factor of 2 plus any additional capacity to account for downdrag or negative skin friction and scour, when applicable. The Engineer will provide the required driving resistance based upon the wave equation analysis and pile driving analyzer results, if applicable, using the approved pile driving methods and equipment.

Stop driving piles when practical refusal is reached, unless otherwise directed by the Engineer. Practical refusal is defined as 180 blows per foot (0.3 m) or any equivalent set.

450-9 MEASUREMENT AND PAYMENT

Piles (Treated Timber Piles, _____ Prestressed Concrete Piles, _____ Steel Piles or _____ Galvanized Steel Piles) will be measured and paid as the actual number of linear feet (meters) of piles incorporated into the completed and accepted structure. This quantity is measured as the length of pile before driving minus any pile cut-offs. No payment will be made for pile cut-offs or cutting off piles. However, once the required bearing and penetration has been achieved, the Contractor may drive the remaining portion of a pile to grade in lieu of cutting off the pile provided the remaining portion does not exceed 5 ft (1.5 m) and the pile can be driven without damaging the pile or reaching the maximum blow count or practical refusal. When this occurs, the additional length of pile driven will be measured as described above.

For prestressed concrete piles that are built up, the quantity of piles to be paid for will also include the actual number of linear feet (meters) added to the original pile length by the build-up. Steel pile tips are not included in the quantity of prestressed concrete piles. No payment will be made for steel pile tips or pile splicers and any associated hardware or welding. The cost for these items will be considered incidental to the cost of the prestressed concrete pile.

Pile points will be measured and paid for per each for the actual number of pile points incorporated into the completed and accepted structure.

Pipe pile plates will be measured and paid for per each for the actual number of plates incorporated into the completed and accepted structure.

Pile redrives will be measured and paid for per each as the actual number of restrikes or redrives required by the Engineer. No payment will be made for restrikes or redrives when the Contractor chooses to restrike or redrive piles.

Project C-4901A**141****Davidson County**

No payment will be made for any defective or rejected piles or any piles driven for falsework, bracing, or temporary work bridges.

The prices and payments will be full compensation for all items required to provide bearing piles including but not limited to those items contained in Article 450-1.

Payment will be made under:

Pay Item

____ Prestressed Concrete Piles

____ Steel Piles

____ Galvanized Steel Piles

Steel Pile Points

Pipe Pile Plates

Pile Redrives

Pay Unit

Linear Foot

Linear Foot

Linear Foot

Each

Each

Each

PILE EXCAVATION

(1-17-12)

1.0 GENERAL

This special provision governs installing piles using pile excavation in accordance with the plans and as directed by the Engineer. Pile excavation is necessary when piles cannot be installed to the required bearing capacity and tip elevation with conventional driving equipment due to vibration concerns or the presence of rock, boulders, debris or very dense soils. Install piles in accordance with Section 450 of the Standard Specifications and this provision.

2.0 PILE EXCAVATION

Perform pile excavation to the required elevation shown on the plans or otherwise required by the Engineer. Excavate a hole with a diameter that will result in at least 3 in (75 mm) of clearance around the entire pile. Use equipment of adequate capacity and capable of drilling through soil and non-soil including rock, boulders, debris, man-made objects and any other materials encountered. Blasting is not permitted to advance the excavation. Blasting for core removal is only permitted when approved by the Engineer. Dispose of drilling spoils in accordance with Section 802 of the Standard Specifications and as directed by the Engineer. Drilling spoils consist of all excavated material including water removed from the excavation either by pumping or drilling tools.

If unstable, caving or sloughing soils are anticipated or encountered, the Engineer may require the Contractor to stabilize the excavation with steel casing. Steel casing may be either the sectional type or one continuous corrugated or non-corrugated piece. Steel casings should consist of clean watertight steel of ample strength to withstand handling and driving stresses and the pressures imposed by concrete, earth or backfill. Use steel casings with an outside diameter equal to the hole size and a minimum wall thickness of 1/4 in (7 mm).

3.0 CONCRETE PLACEMENT

Before placing concrete, center the pile in the excavation and drive to the required bearing capacity and specified tip elevation, if applicable, as shown on the plans or as directed by the Engineer. Check the water inflow rate in the excavation after any pumps have been removed. If the inflow rate is less than 6 in (150 mm) per half hour, remove any water and free fall the concrete into the excavation. Ensure that concrete flows completely around the pile. If the water inflow rate is greater than 6 in (150 mm) per half hour, propose a concrete placement procedure to the Engineer. The Engineer shall approve the concrete placement procedure before placing concrete.

Fill the excavation with Class A concrete in accordance with Section 1000 of the Standard Specifications except as modified herein. Provide concrete with a slump of 6 to 8 in (150 to 200 mm). Use an approved high-range water reducer to achieve this slump. Place concrete in a continuous manner and remove all casings.

4.0 MEASUREMENT AND PAYMENT

A. Method of Measurement

1. Pile Excavation in Soil

The quantity of "Pile Excavation in Soil" to be paid for will be the linear feet (meters) of pile excavation exclusive of the linear feet (meters) of "Pile Excavation Not in Soil" computed from elevations and dimensions as shown on the plans or from revised dimensions authorized by the Engineer.

2. Pile Excavation Not in Soil

The quantity of "Pile Excavation Not in Soil" to be paid for will be the linear feet (meters) of pile excavation in non-soil as determined by the Engineer. Non-soil is defined as material that cannot be cut with a rock auger and requires excavation by coring, air tools, hand removal or other acceptable methods. Top of non-soil elevation is that elevation where the rock auger penetration rate is less than 2 in (50 mm) per 5 minutes of drilling at full crowd force and coring, air tools, etc. are used to advance the excavation. For pay purposes, after non-soil is encountered, earth seams, rock fragments and voids in the excavation less than 3 ft (0.9 m) in total length will be considered "Pile Excavation Not in Soil". If the non-soil is discontinuous, payment will revert to "Pile Excavation in Soil" at the elevation where non-soil is no longer encountered.

B. Basis of Payment

1. Pile Excavation in Soil

Payment will be made at the contract unit price per linear foot (meter) for "Pile Excavation in Soil". Such payment will include, but is not limited to, furnishing all labor, tools, equipment, materials including concrete complete and in place and all incidentals necessary to excavate and complete the work as described in this provision. The cost for the pile will be paid for separately in accordance with the Standard Specifications and will not be part of the unit bid price for "Pile Excavation in Soil".

2. Pile Excavation Not in Soil

Payment will be made at the contract unit price per linear foot (meter) for "Pile Excavation Not in Soil". Such payment will include, but is not limited to, furnishing all labor, tools, equipment, materials including concrete complete and in place and all incidentals necessary to excavate and complete the work as described in this provision. The cost for the pile will be paid for separately in accordance with the Standard Specifications and will not be part of the unit bid price for "Pile Excavation Not in Soil".

DRILLED PIERS

(1-17-12)

Revise the *Standard Specifications* as follows:

Replace Section 411 with the following:

**SECTION 411
DRILLED PIERS**

411-1 DESCRIPTION

Construct drilled piers consisting of cast-in-place reinforced concrete cylindrical sections in excavated holes typically stabilized with casings or slurry. Provide permanent casings, penetration tests, integrity testing and assistance with the shaft inspection device as noted in the plans. Construct drilled piers with the required capacities and dimensions in accordance with the contract and accepted submittals. Use a prequalified Drilled Pier Contractor to construct drilled piers.

Define "excavation" and "hole" as a drilled pier excavation and "pier" as a drilled pier. Define "rock" as a continuous intact natural material in which the penetration rate with a rock auger is less than 2" (50 mm) per 5 minutes of drilling at full crowd force. This definition excludes discontinuous loose natural materials such as boulders and man-made materials such as concrete, steel, timber, etc. and is not for measurement and payment purposes. See Article 411-7 for measurement and payment of drilled piers.

411-2 MATERIALS

Refer to Division 10.

Item	Section
Grout, Nonshrink	1003
Portland Cement Concrete, Class Drilled Pier	1000
Reinforcing Steel	1070

Provide Type 3 material certifications in accordance with Article 106-3 for permanent casings and roller, chair, steel pipe and cap materials. Store steel materials on blocking at least 12" (300 mm) above the ground and protect it at all times from damage; and when placing in the work make sure it is free from dirt, dust, loose mill scale, loose rust, paint, oil or other foreign materials. Load, transport, unload and store drilled pier materials so materials are kept clean and free of damage.

(F) Steel Casing

Define "casing" as a temporary or permanent casing. Use smooth non-corrugated clean watertight steel casings of ample strength to withstand handling and installation stresses and pressures imposed by concrete, earth, backfill and fluids.

(1) Temporary Casings

Provide temporary casings with nominal wall thicknesses of at least 0.375" (10 mm) and outside diameters equal to or larger than the design pier diameters for which casings are used.

(2) Permanent Casings

Use permanent casings with yield strengths of at least 36 ksi (250 MPa) and nominal wall thicknesses that meet Table 411-1.

TABLE 411-1
MINIMUM PERMANENT CASING WALL THICKNESS

Casing Diameter	Nominal Wall Thickness
< 48" (1220 mm)	0.375" (10 mm)
48" - 78" (1220 mm - 1980 mm)	0.500" (13 mm)
> 78" (1980 mm)	0.625" (16 mm)

Provide permanent casings with outside diameters equal to the design pier diameters for which casings are used unless larger diameter permanent casings are approved.

(G) Slurry

Define "slurry" as bentonite or polymer slurry. Mix bentonite clay or synthetic polymer with water to form bentonite or polymer slurry.

(1) Bentonite Slurry

Provide bentonite slurry that meets Table 411-2.

TABLE 411-2
BENTONITE SLURRY REQUIREMENTS^a

Property	ANSI/API RP ^b 13B-1	Requirement
Density ^c (Mud Weight)	Section 4	64.3 - 72.0 lb/cf (1030 - 1150 kg/m ³)
Viscosity	Section 6.2 Marsh Funnel	28 - 50 sec/qt (28 - 50 sec/0.95 liter)
Sand Content	Section 9	≤ 4 % ^d ≤ 2 % ^e
pH	Section 11 Glass Electrode pH Meter ^f	8 - 11

- Slurry temperature of at least 40°F (4.4°C) required
- American National Standards Institute/American Petroleum Institute Recommended Practice
- Increase density requirements by 2 lb/cf (32 kg/m³) in saltwater
- In tanks before pumping slurry into excavations
- In excavations immediately before placing concrete
- pH paper is also acceptable for measuring pH

(2) Polymer Slurry

Use a polymer slurry product approved by the Department. Value engineering proposals for other polymer slurry products will not be considered. A list of approved polymer slurry products is available from the Department's website or the Geotechnical Engineering Unit.

Provide polymer slurry that meets Table 411-3.

**TABLE 411-3
POLYMER SLURRY REQUIREMENTS^a**

Property	ANSI/API RP ^b 13B-1	Requirement
Density ^c (Mud Weight)	Section 4	$\leq 64 \text{ lb/cf}$ ($\leq 1025 \text{ kg/m}^3$)
Viscosity	Section 6.2 Marsh Funnel	32 - 135 sec/qt (32 - 135 sec/0.95 liter)
Sand Content	Section 9	$\leq 0.5 \%^{d,e}$
pH	Section 11 Glass Electrode pH Meter ^f	8 - 11.5

- a. Slurry temperature of at least 40°F (4.4°C) required
- b. American National Standards Institute/American Petroleum Institute Recommended Practice
- c. Increase density requirements by 2 lb/cf (32 kg/m³) in saltwater
- d. In tanks before pumping slurry into excavations
- e. In excavations immediately before placing concrete
- f. pH paper is also acceptable for measuring pH

(H) Rollers and Chairs

Use rollers and chairs that are non-metallic and resistant to corrosion and degradation. Provide rollers with the necessary dimensions to maintain the minimum required concrete cover shown in the plans and center rebar cages within excavations. Use chairs of sufficient strength to support rebar cages in excavations and of the size necessary to raise cages off bottom of holes to maintain the minimum required distance shown in the plans.

(I) Steel Pipes and Caps

Use Schedule 40 black steel pipes for access tubes for crosshole sonic logging (CSL). Provide CSL tubes with an inside diameter of at least 1.5" (38 mm). Use CSL tubes with a round, regular inside diameter free of defects and obstructions, including any pipe joints, in order to permit free, unobstructed passage of probes for CSL testing. Provide watertight CSL tubes free of corrosion with clean internal and external faces to ensure a good bond between concrete and tubes. Fit CSL tubes with watertight plastic caps on the bottom and removable caps on top.

411-3 PRECONSTRUCTION REQUIREMENTS

(A) Drilled Pier Construction Plan

Submit the proposed drilled pier construction plan for all drilled piers for acceptance. Provide 2 copies of this plan at least 30 days before starting drilled pier construction. Do not begin drilled pier construction until a construction plan is accepted. Provide detailed project specific information in the drilled pier construction plan that includes the following:

- (1) Overall description and sequence of drilled pier construction;
- (2) List and sizes of equipment including cranes, drill rigs, vibratory and downhole hammers, Kelly bars, augers, core barrels, casings (diameters, thicknesses and lengths), cleanout buckets, air lifts, pumps, slurry equipment, tremies, pump pipes

and other equipment;

- (3) Procedures for casing installation and temporary casing removal including how telescoping temporary casings will be removed;
- (4) If applicable, details of slurry testing and use including intended purpose, product information and additives, manufacturer's recommendations for use, name and contact information for slurry manufacturer's technical representative, mixing and handling procedures and how slurry level will be maintained above the highest piezometric head;
- (5) Methods for drilling and cleaning holes including how cores will be removed and drilling spoils and slurry will be handled and disposed of;
- (6) Details of CSL tubes, caps and joints including pipe size and how tubes will be attached to reinforcing steel;
- (7) Procedures for lifting and setting reinforcing steel including how rebar cages will be supported and centralized;
- (8) Procedures for placing concrete including how tremies and pump pipes will be controlled and contaminated concrete will be contained;
- (9) Concrete mix design that meets Section 1000;
- (10) Approved packaged grout or grout mix design that meets Section 1003;
- (11) CSL Consultant including Field and Project Engineer; and
- (12) Other information shown in the plans or requested by the Engineer.

If alternate construction procedures are proposed or necessary, a revised drilled pier construction plan submittal may be required. If the work deviates from the accepted submittal without prior approval, the Engineer may suspend drilled pier construction until a revised plan is accepted.

(B) Preconstruction Meeting

Before starting drilled pier construction, hold a preconstruction meeting to discuss the installation, monitoring and inspection of the drilled piers. Schedule this meeting after all drilled pier submittals have been accepted and the Drilled Pier Contractor has mobilized to the site. The Resident or Bridge Maintenance Engineer, Bridge Construction Engineer, Geotechnical Operations Engineer, Contractor and Drilled Pier Contractor Superintendent will attend this preconstruction meeting.

411-4 CONSTRUCTION METHODS

Do not excavate holes, install piles or allow equipment loads or vibrations within 20 ft (6 m) of completed piers until 16 hours after Drilled Pier concrete reaches initial set.

When drilling from a barge, use a fixed template that maintains hole position and alignment during drilled pier construction. Do not use floating templates or templates attached to barges.

Check for correct drilled pier alignment and location before beginning drilling. Check plumbness of Kelly bars before beginning and frequently during drilling.

Construct drilled piers with the minimum required diameters shown in the plans except for piers

constructed with permanent casings and slurry or permanent casings to rock. For these situations, the pier diameter may be 2" (50 mm) less than the design pier diameter shown in the plans.

Install drilled piers with tip elevations no higher than shown in the plans or approved by the Engineer. Provide piers with the minimum required end bearing capacity and, when noted in the plans, penetration into rock.

(A) Excavation

Excavate holes with equipment of the sizes required to construct drilled piers. Use equipment and methods accepted in the drilled pier construction plan or approved by the Engineer. Inform the Engineer of any deviations from the accepted plan.

Use drill rigs with sufficient capacity to drill through soil, rock, boulders, timbers, man-made objects and any other materials encountered and drill 20 ft (6 m) deeper or 20% longer than the maximum drilled pier length shown in the plans, whichever is greater. Drilling below pier tip elevations shown in the plans may be required to attain sufficient capacity.

Do not use blasting to advance drilled pier excavations. Blasting for core removal is only permitted when approved by the Engineer. Contain and dispose of drilling spoils and waste concrete as directed and in accordance with Section 802. Drilling spoils consist of all materials and fluids removed from excavations.

Stabilize excavations with only casings or slurry and casings except, as approved by the Engineer, portions of excavations in rock. Use casings or slurry in rock if unstable material is anticipated or encountered. Stabilize excavations from beginning of drilling through concrete placement. If excavations become unstable, the Engineer may suspend drilling and require a revised drilled pier construction plan. If it becomes necessary to replace a casing during drilling, backfill the excavation, insert a larger casing around the casing to be replaced or stabilize the excavation with slurry before removing the casing.

When noted in the plans, do not dewater drilled pier excavations. Otherwise, if excavations are in rock, dewater excavations to the satisfaction of the Engineer.

(B) Casings

Provide temporary casings to stabilize holes and protect personnel entering excavations. Permanent casings may be required as noted in the plans. Install permanent casings with tip elevations no deeper than shown in the plans or approved by the Engineer. Additional drilled pier length and reinforcing steel may be required if permanent casings are installed below elevations noted in the plans.

Install casings in continuous sections. Overlap telescoping casings at least 24" (600 mm). Remove casings and portions of permanent casings above the ground line or top of piers, whichever is higher, after placing concrete. Do not cut off permanent casings until Drilled Pier concrete attains a compressive strength of at least 3,000 psi (20.7 MPa).

When using slurry construction without permanent casings, temporary casings at least 10 ft (3 m) long are required at top of excavations. Maintain top of casings at least 12" (300 mm) above the ground line.

(C) Slurry Construction

Unless noted otherwise in the plans, slurry construction or polymer slurry is at the Contractor's option.

Use slurry and additives to stabilize holes in accordance with the manufacturer's recommendations. Provide a technical representative employed by the slurry manufacturer to assist and guide the Drilled Pier Contractor onsite during the construction of the first drilled pier. If problems are encountered during drilled pier construction, the Engineer may require the technical representative to return to the site.

Provide documentation that mixing water is suitable for slurry. Use slurry equipment that is sufficient for mixing, agitating, circulating and storing slurry. Thoroughly premix slurry with water in tanks before pumping into excavations. Allow bentonite slurry to hydrate at least 24 hours in tanks before use.

Pump slurry into excavations before encountering water. Maintain slurry level at least 5 ft (1.5 m) or one pier diameter, whichever is greater, above the highest piezometric head along the drilled pier length. The highest piezometric head is anticipated to be the static water or groundwater elevation. However, the Drilled Pier Contractor is responsible for determining the highest piezometric head for each pier.

Maintain the required slurry properties at all times except for sand content. Desand or replace slurry as needed to meet the required sand content in tanks before pumping slurry into excavations and in excavations immediately before placing concrete.

(1) Time

Agitate bentonite slurry in holes at least every 4 hours. If this 4-hour time limit is exceeded, the Engineer may require holes to be overreamed at least 1" (25 mm) and no more than 3" (75 mm) below casings. Overream holes with grooving tools, overreaming buckets or other approved methods.

Construct drilled piers so the maximum time slurry is in contact with uncased portions of holes from drilling through concrete placement does not exceed 36 hours. If this 36 hour time limit is exceeded, the Engineer may require the hole diameter to be enlarged at least 6" (150 mm). If the enlarged hole diameter is greater than the permanent casing diameter, replace casing with a larger permanent casing with an outside diameter equal to the diameter of the enlarged hole.

(2) Slurry Testing

Define a "sample set" as slurry samples collected from mid-height and within 2 ft (0.6 m) of the bottom of slurry tanks or holes. Take a sample set from slurry tanks to test slurry before beginning drilling. Do not pump slurry into excavations until both slurry samples from tanks meet the required slurry properties. Take sample sets from excavations to test slurry at least every 4 hours and immediately before placing concrete. Do not place Drilled Pier concrete until both slurry samples from an excavation meet the required slurry properties. If any slurry test results do not meet the requirements, the Engineer may suspend drilling until both samples from a sample set meet the required slurry properties.

Sign, date and submit slurry test reports upon completion of each pier. The Department reserves the right to perform comparison slurry tests at any time.

(3) Disposal

Comply with all Federal, State and local regulations, as well as the project permits and commitments, when disposing of slurry and drilling spoils mixed with slurry. Contain slurry and drilling spoils and keep out of water at all times.

(D) Cleaning and Inspection

Provide clean holes with level bottoms so elevations within bottom of holes do not vary by more than 12" (300 mm). Remove soft and loose material from bottom of holes using methods accepted in the drilled pier construction plan or approved by the Engineer. When bottom of holes are not hand cleaned, remove sediment from holes with cleanout buckets, air lifts or pumps.

After cleaning is complete, provide all equipment, personnel and assistance required for the Engineer to visually inspect holes from above or by entering excavations. Remove all cleaning and drilling equipment from holes during inspections and do not interfere with inspections.

(1) Bearing Capacity

If the Engineer determines that the material below an excavation does not provide the minimum required end bearing capacity, increase the drilled pier length and lengthen reinforcing steel as directed. One of the following methods may be required to check the conditions and continuity of material below excavations.

(a) Test Hole

If excavations are in rock, drill a 1.5" (38 mm) diameter test hole at least 6 ft (1.8 m) below bottom of holes for the Engineer to determine the continuity of rock below holes.

(b) Standard Penetration Test

Standard penetration tests (SPT) may be required as noted in the plans. When required, drive a split-barrel sampler 18" (450 mm) below bottom of holes or to refusal in accordance with ASTM D1586. Perform SPT in holes at least 12" (300 mm) away from casing walls and support drill rods so rods remain vertical and straight. Report the number of blows applied in each 6" (150 mm) increment and provide recovered samples to the Engineer. The Engineer will determine the standard penetration resistance required.

(2) Bottom Cleanliness

Holes are clean if at least 50% of bottom of holes has less than 0.5" (13 mm) of sediment and no portions of bottom of holes have more than 1.5" (38 mm) of sediment. If bottom of holes does not meet this cleanliness criteria, remove sediment from holes until the Engineer determines holes are clean. One or more of the following methods may be required to inspect the bottom cleanliness of holes.

(a) Steel Probe

If drilled pier excavations are not dewatered or as directed, provide a #10 rebar steel probe that is 24" (600 mm) long with a flat tip on one end and a non-stretch cable connected to the other end. Provide a cable long enough to lower the steel probe to the bottom of holes for the Engineer to determine the amount of sediment in holes.

(b) Shaft Inspection Device

The Engineer may use the shaft inspection device (SID) as noted in the plans. The Engineer provides the SID and personnel to operate it. Notify the Engineer at least 2 days before finishing holes that will be inspected with the SID.

Assist the Engineer in handling the SID and associated equipment and supporting the SID during inspections. Provide working areas large enough for the SID, associated equipment and SID personnel within reach of the SID cables and clear view of holes being inspected. If necessary, provide a secure location to store the SID and associated equipment onsite overnight.

Approximately one hour is required to inspect a hole with the SID after the SID and associated equipment are set up. The Engineer will use the SID to measure the amount of sediment at 5 locations around the bottom of holes.

(E) Reinforcing Steel and Concrete

Assemble rebar cages consisting of bar and spiral reinforcing steel shown in the plans. Securely cross tie reinforcing steel at each intersection with double wire. Attach a chair under each reinforcing bar and rollers near the top and bottom of rebar cages and every 10 ft (3 m) along cages in between. The number of rollers required at each location along rebar cages is one roller per foot of design pier diameter with at least 4 rollers per location. Space rollers equally around rebar cages at each location. Attach rollers so rollers are supported across 2 adjacent reinforcing bars and will freely rotate when rebar cages are lowered into excavations.

If CSL tubes are required, securely attach CSL tubes to spiral reinforcing steel on the inside of rebar cages with at least 3" (75 mm) clearance to reinforcing bars. Extend CSL tubes from 6" (150 mm) above pier tip elevations to at least 2 ft (0.6 m) above the ground line or top of permanent casings, whichever is greater. The number of CSL tubes required for each drilled pier is one tube per foot of design pier diameter with at least 4 tubes per pier. Space CSL tubes equally around rebar cages so distances between tubes measured around spiral reinforcing steel are uniform. Install CSL tubes as straight and parallel to each other as possible. Fit caps on top and bottom of CSL tubes.

After the Engineer determines that the material below excavations provides the minimum required bearing capacity and holes are clean, place rebar cages and then concrete in excavations. Do not rack or distort rebar cages and CSL tubes when lifting and handling cages. Set rebar cages directly on bottom of holes or, as approved by the Engineer, hang cages from permanent casings. When hanging rebar cages, leave devices supporting

cages in place until Drilled Pier concrete attains a compressive strength of at least 3,000 psi (20.7 MPa).

Do not delay placing cages or concrete unless excavations are cased to rock or otherwise approved. If delays occur, the Engineer may require removal of rebar cages to reinspect bottom cleanliness of holes. If bottom of holes does not meet the cleanliness criteria in Subarticle 411-4(D)(2), remove sediment from holes until the Engineer determines holes are clean before resetting rebar cages.

After placing rebar cages with CSL tubes, remove top caps, fill tubes with clean water and reinstall caps before placing concrete. Check for correct cage position before placing concrete and keep rebar cages plumb during concrete placement. Maintain cage position so rebar cages do not move vertically more than 6" (150 mm) and columns or footings have the minimum required concrete cover shown in the plans.

Remove all temporary casings during concrete placement. Do not twist, move or otherwise disturb temporary casings until the concrete depth inside casings is at least 10 ft (3 m) or half the head, whichever is greater, above the bottom of casing being disturbed. Define "head" as the difference between the highest piezometric head along the drilled pier length and the static water elevation inside the excavation.

When removing temporary casings, maintain the required concrete depth above the bottom of casing being removed except when the concrete level is at or above top of piers. Sustain sufficient concrete depths to overcome pressures imposed by earth, backfill and fluids. As temporary casings are withdrawn, ensure fluids trapped behind casings is displaced upward and discharged out of excavations without contaminating or displacing concrete.

Pour concrete in excavations to form uniform jointless monolithic drilled piers. Do not trap soil, air, fluids or other contaminants in concrete. Remove contaminated concrete from top of piers at time of concrete placement.

Inform the Engineer of the volume of concrete placed for each pier. For piers constructed with slurry or as directed, record a graphical plot of depth versus theoretical and actual concrete volumes.

Dry or wet placement of concrete is at the Contractor's option for piers constructed with only casings if the water inflow rate into excavations is less than 6" (150 mm) per half hour after removing any pumps from holes. Wet placement of concrete is required for all other drilled pier construction.

(1) Dry Placement

If holes are filling with water for dry placement of concrete, dewater excavations as much as possible before placing concrete. For drilled piers less than 80 ft (24.4 m) long, pour concrete down the center of excavations so concrete does not hit reinforcing steel or excavation sidewalls. For piers longer than 80 ft (24.4 m), place concrete with a tremie or pump pipe down the center of excavations so length of free fall is less than 80 ft (24.4 m).

(2) Wet Placement

For wet placement of concrete, maintain static water or slurry levels in holes

before placing concrete. Place concrete through steel tremies or pump pipes. Use tremies with watertight joints and a diameter of at least 10" (250 mm). Pump concrete in accordance with Article 420-5. Use approved devices to prevent contaminating concrete when tremies or pump pipes are initially placed in excavations. Extend tremies or pump pipes into concrete at least 5 ft (1.5 m) at all times except when the concrete is initially placed.

When the concrete level reaches the static water elevation inside the excavation, dry placement of concrete is permitted. Before changing to dry placement, pump water or slurry out of holes and remove contaminated concrete from the exposed concrete surface.

411-5 INTEGRITY TESTING

Define "integrity testing" as crosshole sonic logging (CSL) and pile integrity testing (PIT). Integrity testing may be required as noted in the plans or by the Engineer. The Engineer will determine how many and which drilled piers require integrity testing. Do not test piers until Drilled Pier concrete cures for at least 7 days and attains a compressive strength of at least 3,000 psi (20.7 MPa).

(A) Crosshole Sonic Logging

If CSL testing is required, use a prequalified CSL Consultant to perform CSL testing and provide CSL reports. Use a CSL Operator approved as a Field Engineer (key person) for the CSL Consultant. Provide CSL reports sealed by an engineer approved as a Project Engineer (key person) for the same CSL Consultant.

(1) CSL Testing

Perform CSL testing in accordance with ASTM D6760. If probes for CSL testing will not pass through to the bottom of CSL tubes, the Engineer may require coring to replace inaccessible tubes. Do not begin coring until core hole size and locations are approved. Core at least 1.5" (38 mm) diameter holes the full length of piers. Upon completion of coring, fill holes with clean water and cover to keep out debris. Perform CSL testing in core holes instead of inaccessible tubes.

For piers with 4 or 5 CSL tubes, test all tube pairs. For piers with 6 or more CSL tubes, test all adjacent tube pairs around spiral reinforcing steel and at least 50% of remaining tube pairs selected by the Engineer. Record CSL data at depth intervals of 2.5" (63.5 mm) or less from the bottom of CSL tubes to top of piers.

(2) CSL Testing

Submit 2 copies of each CSL report within 7 days of completing CSL testing. Include the following in CSL reports:

(a) Title Sheet

- (i) Department's TIP number and WBS element number**
- (ii) Project description**
- (iii) County**
- (iv) Bridge station number**

- (v) Pier location
 - (vi) Personnel
 - (vii) Report date
- (b) Introduction
- (c) Site and Subsurface Conditions (including water table elevation)
- (d) Pier Details
 - (i) Pier and casing diameters, lengths and elevations
 - (ii) Drilled Pier concrete compressive strength
 - (iii) Installation methods including use of casings, slurry, pumps, tremies, dry or wet placement of concrete, etc.
- (e) CSL Results
 - (i) Logs with plots of signal arrival times and energy vs. depth for all tube pairs tested
- (f) Summary/Conclusions
 - (i) Table of velocity reductions with corresponding locations (tube pair and depth) for all tube pairs tested
 - (ii) List of suspected anomalies with corresponding locations (tube pair(s) and depth range)
- (g) Attachments
 - (i) Boring log(s)
 - (ii) Field inspection forms and concrete curves (from Engineer)
 - (iii) CSL tube locations, elevations, lengths and identifications
 - (iv) CSL hardware model and software version information
 - (v) PDF copy of all CSL data

(B) Pile Integrity Testing

If required, the Engineer will perform PIT. Provide access to and prepare top of piers for PIT as directed. See ASTM D5882 for PIT details.

(C) Further Investigation

Define “further investigation” as any additional testing, excavation or coring following initial integrity testing. Based on concrete placement and initial integrity testing results, the Engineer will determine if drilled piers are questionable and require further investigation within 7 days of receiving CSL reports or completing PIT. For initial CSL testing, the Engineer will typically determine whether further investigation is required based on Table 411-4.

TABLE 411-4
DRILLED PIER FURTHER INVESTIGATION CRITERIA
(For Initial CSL Testing)

Velocity Reductions	Further Investigation Required?
< 20%	No
20 - 30%	As Determined by the Engineer
> 30%	Yes

If further investigation is necessary, the Engineer will typically require one or more of the following methods to investigate questionable piers.

(1) CSL Testing

If required, use CSL testing as described above to retest questionable piers and as directed, perform testing with probes vertically offset in CSL tubes. CSL offset data will typically be required for all locations (tube pair and depth) with velocity reductions greater than 30% and at other locations as directed. Record offset data at depths, intervals and angles needed to completely delineate anomalies.

Provide CSL reports that meet Subarticle 411-5(A)(2). When CSL offset data is required, perform tomographic analysis and provide 3 dimensional color coded tomographic images of piers showing locations and sizes of anomalies.

(2) Excavation

If required, excavate around questionable piers and remove permanent casing as needed to expose Drilled Pier concrete. Do not damage piers when excavating or removing casings. The Engineer will determine the portions of piers to expose.

(3) Coring

If required, core questionable piers and provide PQ size cores that meet ASTM D2113. The Engineer will determine the number, location and depth of core holes required. Handle, log and store concrete cores in accordance with ASTM D5079. Provide cores to the Engineer for evaluation and testing. Sign, date and submit core logs upon completion of each core hole.

(D) Defective Piers

For questionable piers that are exposed or cored, the Engineer will determine if piers are defective based on the results of excavation or coring. For questionable piers that are not exposed or cored, the Engineer will determine if piers are defective based on the results of integrity testing. Questionable piers with only CSL testing will be considered defective if any velocity reductions between any tube pairs are greater than 30%.

411-6 DRILLED PIER ACCEPTANCE

Drilled pier acceptance is based in part on the following criteria:

- (A)** Temporary casings and drilling tools are removed from the drilled pier excavation or the Engineer determines that a temporary casing may remain in the excavation.
- (B)** Drilled Pier concrete is properly placed and does not have any evidence of segregation, intrusions, contamination, structural damage or inadequate consolidation

(honeycombing).

- (C) Center of pier is within 3" (75 mm) of plan location and 2% of plumb. Top of pier is within 1" (25 mm) above and 3" (75 mm) below the elevation shown in the plans or approved by the Engineer.
- (D) Rebar cage is properly placed and top and center of cage is within tolerances for center of pier. Tip of permanent casing does not extend below the elevation noted in the plans or approved by the Engineer.
- (E) Drilled pier is not defective or the Engineer determines the defective pier is satisfactory. A pier will be considered defective based on Subarticle 411-5(D).

Do not grout CSL tubes or core holes, backfill around a pier or perform any work on a drilled pier until the Engineer accepts the pier. If the drilled pier is accepted, dewater and grout CSL tubes and core holes, and backfill around the pier with approved material to finished grade. If the Engineer determines a pier is unacceptable, remediation is required. Remediation may include, but is not limited to grouting, removing part or all of unacceptable piers, modifying pier designs or providing replacement or additional piers or piles. Submit working drawings and design calculations for acceptance in accordance with Article 105-2. Ensure remediation submittals are designed, detailed and sealed by an engineer licensed by the State of North Carolina. Do not begin remediation work until remediation plans are approved. When repairing unacceptable piers, perform post repair testing to gauge success of the repair. No extension of completion date or time will be allowed for remediation of unacceptable drilled piers or post repair testing.

411-7 MEASUREMENT AND PAYMENT

____ *Dia. Drilled Piers in Soil*, ____ *Dia. Drilled Piers Not in Soil* and ____ *Dia. Drill Piers* will be measured and paid in linear feet (meters). Acceptable drilled piers will be measured as the difference between the specified top of pier and pier tip elevations or revised elevations approved by the Engineer.

For bents with a not in soil pay item shown in the plans, drilled piers will be paid as ____ *Dia. Drilled Piers in Soil* and ____ *Dia. Drilled Piers Not in Soil*. Define "not in soil" as material with a rock auger penetration rate of less than 2" (50 mm) per 5 minutes of drilling at full crowd force. When not in soil is encountered, seams, voids and weathered rock less than 3 ft (1 m) thick with a rock auger penetration rate of greater than 2" (50 mm) per 5 minutes of drilling at full crowd force will be paid at the contract unit price for ____ *Dia. Drilled Piers Not in Soil*. Seams, voids and weathered rock greater than 3 ft (1 m) thick will be paid at the contract unit price for ____ *Dia. Drilled Piers in Soil* where not in soil is no longer encountered. For bents with a not in soil pay item shown in the plans, drilled piers through air or water will be paid at the contract unit price for ____ *Dia. Drilled Piers in Soil*.

For bents without a not in soil pay item shown in the plans, drilled piers will be paid as ____ *Dia. Drill Piers*. The contract unit price for ____ *Dia. Drilled Piers* will be full compensation for drilling through any materials encountered.

The contract unit prices for ____ *Dia. Drilled Piers in Soil*, ____ *Dia. Drilled Piers Not in Soil* and ____ *Dia. Drill Piers* will also be full compensation for spoils and slurry containment and disposal, slurry construction including a slurry manufacturer representative and overreaming and enlarging piers and any concrete removal, miscellaneous grading and excavation. No additional

payment will be made for excess Drilled Pier concrete due to caving or sloughing holes or telescoping casings.

Reinforcing steel will be measured and paid in accordance with Article 425-6.

Permanent Steel Casing for ____ Dia. Drilled Pier will be measured and paid in linear feet (meters). Permanent casings will only be paid for when required by the Engineer or shown in the plans. Permanent casings will be measured as the difference between the ground line or specified top of pier elevation, whichever is higher, and the specified permanent casing tip elevation or revised elevation approved by the Engineer. If a permanent casing cannot be installed to the tip elevation shown in the plans, up to 3 ft (1 m) of casing cut-off will be paid at the contract unit price for *Permanent Steel Casing for ____ Dia. Drilled Pier*.

SID Inspections will be measured and paid in units of each. *SID Inspections* will be measured as one per pier. The contract unit price for *SID Inspections* will be full compensation for inspecting holes with the SID the first time. No additional payment will be made for subsequent inspections of the same hole.

The Contractor is responsible for any damage to the SID equipment due to the Contractor's fault or negligence. Replace any damaged equipment at no additional cost to the Department.

SPT Testing will be measured and paid in units of each. *SPT Testing* will be measured as the number of standard penetration tests performed.

CSL Testing will be measured and paid in units of each. *CSL Testing* will be measured as one per pier. The contract unit price for *CSL Testing* will be full compensation for performing initial CSL testing and providing CSL reports. Subsequent CSL testing of and CSL reports for the same pier will be considered further investigation. No separate payment will be made for CSL tubes. CSL tubes including coring for inaccessible tubes and grouting will be incidental to the contract unit prices for drilled piers.

No payment will be made for stuck temporary casings that cannot be removed from drilled pier excavations or additional drilled pier length and reinforcing steel required due to temporary casings that remain in excavations. No payment will be made for PIT. No payment will be made for further investigation of defective piers. Further investigation of piers that are not defective will be paid as extra work in accordance with Article 104-7. No payment will be made for remediation of unacceptable drilled piers or post repair testing.

Payment will be made under:

Pay Item	Pay Unit
____ Dia. Drilled Piers in Soil	Linear Foot (Meter)
____ Dia. Drilled Piers Not in Soil	Linear Foot (Meter)
____ Dia. Drilled Piers	Linear Foot (Meter)
Permanent Steel Casing for ____ Dia. Drilled Piers	Linear Foot (Meter)
SID Inspections	Each
SPT Testing	Each
CSL Testing	Each

EPOXY MORTAR REPAIRS

(12-5-12)

1.0 MATERIAL PROPERTIES

Use a two-component paste epoxy bonding agent for the epoxy mortar conforming to the following requirements:

Density, lbs/gal	10.5
Specific Gravity	1.3
Minimum Application Temperature, °F	50
Application Temperature Range, °F	60 to 105
Shelf Life	1 year (min.)

	@ 60°F	@ 85°F	@ 105°F
Potlife, hr., 1 gallon	2½	1	½
Open Time ¹ , minimum: hr.	4	1¾	¾
Non-sag Thickness, inches (ASTM D2730)	1	¾	½
Initial Cure ² , days (AASHTO T237)	10	6	3
Cure Time ³ , days (ASTM D695)	20	10	7

Typical Mechanical Properties ⁴	
Tensile Strength, psi Elongation at Break (ASTM D638)	1,500 4%
Compressive Yield Strength, psi Compressive Modulus, psi (ASTM D695)	8,000 4.0 x 10 ⁵
Heat Deflection Temperature ⁵ , °F (ASTM D648)	105
Slant Shear Strength, psi Damp to Damp Concrete (AASHTO T237)	5,000 100% Concrete Failure

1. From start of mixing to completion of repair
2. 5,000 psi minimum
3. Isothermal cure to eliminate effect of exotherm
4. Cure schedule 7 days @ 77°F, test temperature 77°F
5. 128°F after 28 day cure

2.0 SURFACE PREPARATION

Prior to the application of epoxy mortar, thoroughly clean surfaces to be repaired and remove all loose materials. Remove grease, wax, and oil contaminants by scrubbing with an industrial grade detergent or degreasing compound followed by a mechanical cleaning. Remove weak or deteriorated concrete to sound concrete by bush hammering, gritblasting, scarifying, waterblasting, or other approved methods. Remove dirt, dust, laitance and curing compounds by gritblasting, sanding, or etching with 15% hydrochloric acid.

Acid etch only if approved by the Engineer. Follow acid etching by scrubbing and flushing with copious amounts of clean water. Check the cleaning using moist pH paper. Water cleaning is complete when the paper reads 10 or higher.

Follow all mechanical cleaning with vacuum cleaning.

3.0 APPLICATION

When surface preparation is completed, apply epoxy mortar to the areas specified in the contract plans and established by the Engineer. Repair deep surface irregularities such as severe spalling with a 1:1 sand-epoxy mix. Use graded silica sand that is washed, kiln-dried, and bagged. Repair shallow surface irregularities with the epoxy bonding agent. The finishing of those areas receiving the sand-epoxy mix with the epoxy bonding agent is permitted.

Apply epoxy mortar to damp surfaces only when approved. In such instances, remove all free water by air-blasting.

After applying the epoxy mortar, remove excessive material and provide a smooth, flush surface. Remove the epoxy material in accordance with the supplier's instructions.

4.0 MEASUREMENT AND PAYMENT

Payment for Epoxy Mortar Repairs will be at the contract unit price per square foot for "Epoxy Mortar Repairs". Such payment will be full compensation for furnishing all material, labor, tools and equipment necessary for performing this work complete in place and accepted. For repairs of edge or corner areas, the surface to be measured for payment will be the largest surface and the other surfaces will not be measured.

Project C-4901A

160

Davidson County

WATERPROOFING**(SPECIAL)**

Waterproof the top surface of the bridge deck and all construction joints which will be covered by fill with a cold liquid-applied elastomeric membrane to the limits shown in the contract plans. Waterproofing membrane shall be a two coat, rapid cure, seamless, cold liquid spray applied membrane such as the "Eliminator" system manufactured by Stirling Lloyd Products, Inc., or the "Bridge Deck Membrane" system manufactured by Bridge Preservation L.L.C. (R.J. Watson, Inc.) or approved equal. Apply waterproofing in strict accordance with manufacturer's recommendations. Immediately prior to application of membrane, clean the surfaces to be waterproofed per the manufacturer's recommendations. Membrane protection is not required, i.e. ballast may be placed directly on top of the fully cured membrane waterproofing.

The entire cost of the waterproofing complete in place will be paid for at the contract unit price per square yard for "Waterproofing".

PORTLAND CEMENT**(SPECIAL)**

Portland Cement shall meet the requirements of the Standard Specifications for the type specified for the work. In addition, in order to minimize alkali content, the total percentage of sodium oxide (Na_2O) present plus 0.658 times the total percentage of potassium oxide (K_2O) present shall not exceed 0.60 percent. The Contractor shall furnish the Engineer with two (2) copies of certified mill test reports from the manufacturer stating that all cement meets the above requirements.

Flyash may be substituted for cement in the amounts shown in Section 1024-1 of the Standard Specifications provided that the minimum cement requirement as shown on the Plans has been satisfied. In no case shall the substitution of flyash or other admixtures approved by the Engineer be in lieu of the minimum cement requirements.

FINE AND COARSE AGGREGATE**(SPECIAL)**

The fine and coarse aggregates used in all concrete on the railway structure shall be non-reactive in accordance with the "Method of Test for Potential Reactivity of Aggregates (Chemical Method)", ASTM Designation C289-81. The Contractor shall furnish the Engineer two (2) copies of the above test reports certifying that the fine and coarse aggregates are non-reactive and will not cause an alkali reaction.

WATERSTOPS**(SPECIAL)**

Waterstops shall be made of an approved flexible polyvinyl-chloride plastic conforming to U.S. Corps of Engineers Specification CRD-C-572-74 or rubber conforming to U.S. Corps of Engineers Specification CRD-C-513-75. Waterstops shall be made in the shape and of the material specified on the Plans. The material shall form a continuous waterstop across the slab and up the parapets of bridge decks, abutment wings, or other locations as shown on the Plans. Waterstops shall be fabricated in continuous units without splices, using material of the longest length available. Where

bonded joints are necessary, like materials shall be bonded together by experienced men in accordance with the manufacturer's instructions. The entire cost of the waterstop complete in place shall be included in the unit contract price bid for "Reinforced Concrete Deck Slab."

ELASTOMERIC FLASHING

(SPECIAL)

The elastomeric flashing at the expansion joint between deck slabs shall be a continuous sheet of synthetic rubber 1/16" thick by 10" wide or equal based on polychloroprene having properties specified by the following test data:

Tensile Strength, ASTM D-412-80	2,000 psi minimum
Elongation, ASTM D-412-80	300% minimum
Hardness, ASTM D-2240-81	60 ± 10
Water Absorption, ASTM D-471-79	10% maximum

The adhesive for use with the flashing shall be as recommended by the manufacturer of the synthetic rubber furnished and shall be applied according to the manufacturer's instructions.

The entire cost of the elastomeric flashing, complete in place, shall be included in the unit contract price bid for "Reinforced Concrete Deck Slab."

RUBBER JOINT COMPOUNDS

(SPECIAL)

Expansion joints shall be sealed with a two component elastomeric polymer type cold-applied synthetic joint sealer, manufactured with Thiokol polysulfide liquid polymers. The material shall be grey polysulfide rubber base caulking compound conforming to Specification ANSI A-116.1. Pouring type compound shall be used for horizontal joints and non-sag type for other joints. The mixing and application of the joint sealing compound shall be performed with the equipment recommended and in strict accordance with the manufacturer's instructions. The entire cost of rubber joint compounds shall be included in the unit contract price bid for "Reinforced Concrete Deck Slab."

Project C-4901A

162

Davidson County

STRUCTURE DRAINAGE SYSTEM**(SPECIAL)****Materials**

Ductile iron pipe (D.I.P) drains shall be as detailed and specified on the Plans. Perforated pipe drains behind the abutments shall be corrugated steel pipe as detailed on the Plans. French drain material behind abutments shall be No. 467M crushed stone or gravel conforming to Table 1005-1, Aggregate Gradation.

Installation

Deck drains shall be located as shown on the Plans. The D.I.P. drains shall be installed as detailed and specified on the Plans.

Perforated pipe drains behind the abutments shall be laid with perforations turned down and bedded on a layer of compacted impervious clay. The perforations shall be kept open and free from the clay bedding course, asphalt coating, or other material. The French drain material shall be placed concurrently with the backfill and shall be kept separate with a thin timber slide or burlap bag. Perforated pipe behind abutments and outfall pipes shall be laid on a grade of at least one percent (1%) and shall be located as shown on the Plans.

Grades of pipe drains shall be set by the Engineer. Copies of shop drawings showing details of the drainage system shall be submitted by the Contractor to the Engineer for approval. The drainage system must be approved prior to fabrication.

Basis of Payment

Payment for the Structure Drainage System will be made at the contract lump sum price bid for "Structure Drainage System at Sta. _____". Such lump sum price shall be full compensation for furnishing all materials and labor to install the drainage system complete, including ductile iron pipe, deck drains, fittings, excavation, perforated pipe drains, French drain material, other backfill and outfall pipes.

BACKFILLING AROUND STRUCTURES**(SPECIAL)**

Backfill material behind abutments (except No. 467M crushed stone or gravel for French drains over perforated drain pipes) shall be Type A Aggregate Base Course (ABC) in accordance with the Standard Specifications. Placing and compacting shall be as provided for in Section 410-8 of the Standard Specifications.

Backfill around structures, except as specified above, shall be suitable material available from the excavations. In the event material excavated is not approved for use as backfill by the Engineer, the Contractor will be required to furnish and haul to the structure site the necessary suitable backfill material. Placing and compacting shall be as provided in Section 410-8 of the Standard Specifications.

Disposal of surplus excavated material shall be as specified in Section 410-1 of the Standard Specifications.

Payment for furnishing ABC backfill material and any suitable material to replace excavated material and for placing and compacting all backfill material shall be included in the contract unit price for the several other pay items.

SELF-LUBRICATING EXPANSION BEARING ASSEMBLIES**(SPECIAL)****Description**

The self-lubricating expansion bearing assemblies each consist of an oilless self-lubricating copper alloy plate, a sole plate, a sliding plate with keeper bars, a masonry plate, any necessary fill plates, a bearing pad, an anchor bolt assembly which includes anchor bolts, nuts, and washers, pipe sleeves, a closure plate, grout, various sizes of standard pipe, and any other necessary material as detailed on the Plans. These bearing assemblies are located at the expansion ends of applicable spans as shown on the Plans.

Requirements

Use self-lubricating copper alloy bearing plates that are an approved article of standard production by an established manufacturer of such equipment installed in accordance with the manufacturer's recommendations and conforming to the following requirements:

- Copper alloy conforming to AASHTO M107 Alloy 911 or AASHTO M108 Alloy 510.
- Lubricant of the solid type and consisting of graphite, metallic substances having lubricating properties and a lubricating binder. Do not use materials without lubricating qualities or that promote chemical or electrolytic reactions. Use lubricant that is integrally molded and compressed into the lubrication recesses to form a dense, non-plastic lubricant.
- Recesses arranged in a geometric pattern so that successive rows overlap in the direction of motion and the distance between extremities of recesses is closer in the direction of motion than that perpendicular to motion. Lubricate the entire bearing area of all surfaces that have provision for motion by means of these lubricant filled recesses. Provide a total area of these recesses between 25% and 35% of the total bearing area of the plate.
- Furnish bearing plates in sizes specified on the drawings. Machine finish the bearing surfaces and make sure that the surface roughness does not exceed 125 micro inches (3.18 microns) when measured in accordance with ASA Standard B46.1-1955. Also finish the bearing surfaces of the opposing steel plates as above. Align the tool marks in the direction of motion. Finish the bearing surfaces so that all machine surfaces are flat within 0.0005 inch per inch of length and width.
- For mating curved surfaces of steel and copper alloy, the maximum positive tolerance for the concave surface is 0.010 inch and the maximum negative tolerance for the convex surface is 0.010 inch.
- The coefficient of friction between the copper alloy self-lubricating plates and the steel plates in contact with them does not exceed 0.10 when subjected to the designed unit loading and at twice the designed unit loading.

Project C-4901A**165****Davidson County****Basis of Payment**

Payment for the bearing assemblies will be at the contract lump sum price bid for "Self-lubricating Expansion Bearing Assemblies." Such lump sum price will be full compensation for all materials, tools, equipment, labor and incidentals necessary to furnish and install the self-lubricating bearing assemblies.

Payment for the Fixed Bearing Assemblies as shown on the Plans will be included in the lump sum price bid for "Approx. _____ Lbs. Structural Steel".

CONDUIT IN PARAPETS**(SPECIAL)**

Conduit in the parapets shall be 4" diameter PVC conduit conforming to applicable Underwriters Laboratory specifications and shall be located as shown on the Plans. Provisions shall be made for expansion between the deck slab and abutment backwalls and between deck slabs at expansion joints. Couplings shall be provided behind backwalls for connection to the 4" diameter rigid pipe. If non-PVC fittings, couplings, or other incidental items are required, they must be fully compatible with PVC conduit. Details and material data shall be submitted by the Contractor to the Engineer for approval by the Railway Company of all materials required for this work. The entire cost of furnishing and installing all conduit, expansion fittings, couplings and incidental items required for this work shall be included in the unit contract price bid for "Concrete Parapet".

CONCRETE PARAPET**(SPECIAL)**

Concrete Parapet shall be as shown on the plans and shall comply with Section 460 of the Standard Specifications. The quantity of concrete parapet to be paid for will be measured and paid as the number of linear feet of concrete parapet provided in the plans. Full compensation for the work shall include, but is not limited to, falsework and formwork, concrete, reinforcing steel, admixtures, all other materials and placing, finishing and curing the concrete. The quantity of concrete parapet as measured above will be paid for at the contract unit price per linear foot for "Concrete Parapet".

METAL RAIL (ALUMINUM)**(SPECIAL)**

The Metal Handrail shall be as shown on the Plans. The quantity of handrail to be paid for will be the actual number of linear feet of handrail measured continuously along the top bar of the rail from end to end which has been completed and accepted. Full compensation for the work shall include, but is not limited to, furnishing posts, rails, fittings and all other materials and fabricating and erecting the metal rail. The quantity of metal rail as measured above will be paid for at the contract unit price per linear foot for "Metal Rail (Aluminum)".

STRUCTURAL STEEL**(SPECIAL)****I. STRUCTURAL STEEL****A. Scope**

This Special Provision shall cover the furnishing, fabrication, preparation, assembly, welding, painting, and erection of all structural steel shown on the Plans.

B. General Specifications

1. Except as otherwise specified hereinafter, the current AREMA Specifications, Chapter 15, Steel Structures, apply to all work under this section.

C. Structural Steel**1. Fracture Critical Members**

- a. All fracture critical members are identified on the Plans.
- b. All fracture critical members will be fabricated in accordance with the Fracture Control Plan stated in the AREMA Specifications, Chapter 15, Section 1.14.
- c. Fabricator shall be certified under the AISC Quality Certification Program as follows:

Welded Plate Girders Category III
 Rolled Beam Bridges Category I.

- d. Structural steel shall meet the current requirements of the ASTM Specifications for Structural Steel, Designation A-709, Grade 50, S84-F2, S91, S93.

S84-F2 (Fracture Critical – Charpy Test Zone 2)
 S91 (Fine Austenitic Grain Size)
 S93 (Limitation on Weld Repairs)

Except as noted in the AREMA Fracture Control Plan.

2. Non-Fracture Critical Members

- a. All primary members or components requiring improved notch toughness are identified on the Plans.

- b. Fabricator shall be certified under the AISC Quality Certification Program as follows:

Welded Plate Girders	Category III
Rolled Beam Bridges	Category I
 - c. Structural steel shapes and plates used as primary members or components shall meet the current requirements of the ASTM Specifications for Structural Steel, Designation A-709, Grade 50, S83-T2, S91.

S83-T2	(Non-Fracture Critical – Charpy Test Zone 2)
S91	(Fine Austenitic Grain Size)
- 3. Other Structural Steel
 - a. It is preferred that the Fabricator be certified under the AISC Quality Certification Program, Category I.
 - b. All structural steel shall meet the current requirements of the Specification for ASTM Designation A-709, Grade 50, unless specified otherwise in this Special Provision or on the Plans.
- D. Other Materials
 - 1. High strength bolts shall meet the current requirements of the ASTM Specifications for High Strength Bolts for Structural Steel Joints, Designation A 325.
 - 2. Anchor bolts shall be threaded rods with heavy hex nut meeting the current requirements of ASTM specification for fasteners, Designation A-449.
 - 3. Welding electrodes for arc welding shall meet the current requirements of the Specifications for mild steel arc-welding electrodes Series E70, AWS 5.1, Low Hydrogen Classification for SMAW and AWS 5.17 for SAW.
 - 4. Preformed fabric bearing pads shall be Shock Pad Style No. 15175 as manufactured by Alert Manufacturing and Supply Company, Chicago, Illinois, or FABREEKA Pads as manufactured by Fabreeka Products Company, 1190 Adams Street, Boston, Massachusetts, or SORBTREX Pads as manufactured by Voss Engineering, Inc., Chicago, Illinois, or approved equal.

E. Welding Processes

Only submerged arc welding (SAW) or shielded metal arc welding (SMAW) may be used. No other process will be allowed.

F. Bolted Connections

Permanent bolted connections using High Strength Bolts shall be installed and tightened using the Turn-of-the-Nut Method.

G. Paint

All steel preparation and painting shall be in accordance with the Special Provision PAINTING STRUCTURAL STEEL.

H. Shop Drawings

1. The Contractor's attention is called to the requirements for shop drawings, Chapter 15, Article 1.1.3 Shop Drawings, AREMA Specifications.
2. The Contractor shall furnish three (3) complete sets of detailed shop drawings to the Company for approval prior to starting fabrication. Unchecked drawings shall not be submitted for approval. After approval of shop drawings, the Contractor shall supply the Company with one set of reproducibles of the approved drawings.
3. The rejection of or the procedure for the correction of shop drawings will not be considered as cause for delay.
4. Approval by the Engineer of the shop drawings shall not relieve the Contractor from furnishing material of proper dimensions, quantity, and quality, nor will such approval relieve the Contractor from the responsibility for errors of any sort in the shop drawings.
5. Original drawings or photographic reproducibles on mylar, or equivalent film, shall be furnished at the completion of the Contract in accordance with Chapter 15, Article 1.1.3, AREMA Specifications. Reproducibles made by the diazo process are not acceptable. The plans shall be sent to:

Chief Engineer – Bridges & Structures
Norfolk Southern Corporation
99 Spring Street, SW, Box 142
Atlanta, GA 30303

II. SHOP INSPECTION & TESTING

1. The Company may arrange for inspection by an independent inspection firm under a separate contract. This inspection will be in addition to the Fabricator's Quality Control Program.
2. The Fabricator shall notify the Company and its inspector of the scheduled date for beginning fabrication and shall not begin fabrication until the Company's Inspector is present.
3. The Fabricator shall furnish copies of certified mill inspection reports to the Company for all structural steel requiring improved notch toughness.
4. The Fabricator shall meet the requirements of the AREMA Fracture Control Plan described in Chapter 15, Section 1.14 for all members and components designated as fracture critical.
5. Welding Inspection shall verify that all welds and welding procedures meet the requirements of the American Welding Society (A.W.S.) Bridge Welding Code, D1.5, current edition.
6. All welds shall be inspected visually and by use of nondestructive testing. All nondestructive testing shall be performed by the Fabricator and witnessed by the Company's Inspector.
7. Witnessing of weld inspection shall be done in a timely manner without disruption of normal shop operations. Copies of all weld inspections and nondestructive testing reports shall be furnished to the Company.

8. The Fabricator shall perform the following weld inspection and testing:
- (a) All transverse tension groove welds in FCM members, when allowed by the Engineer, shall be RT and UT tested 100%. In non-FCM components of FCM's all transverse groove welds shall be RT or UT tested 100%.
 - (b) All flange to web welds shall be tested on both sides as follows:
 - 1. Top flange to web welds will be UT tested 100% over 10% of the length from each end and the remaining length of weld will be UT tested 10%.
 - 2. Bottom flange to web welds will be UT 100%.
 - (c) All flange to web fillet welds, when allowed by the Engineer, are to be magnetic particle tested 100%.
- Ten percent (10%) of all welds not mentioned above shall be magnetic particle tested.

III. MEASUREMENT AND PAYMENT

Payment will be made at the contract lump sum price for the bid item "Approx. _____ Lbs. Structural Steel" and shall constitute full payment for all costs of plant, superintendent, labor, material, and equipment necessary to furnish, fabricate, shop paint, and shop assemble and deliver all the structural steel required for the project in accordance with the Plans, Specifications, and Special Provisions, including furnishing the fabric bearing pads, the fixed bearing assemblies and anchor bolts.

Project C-4901A

172

Davidson County

PAINTING STRUCTURAL STEEL**(SPECIAL)****Plans and Specifications**

This work consists of furnishing all labor, material, plant and equipment, and performing all operations in connection with Shop Painting (prime coat, wash coat, and top coat applied in the fabricators plant or unless otherwise specified by the Railway). All painting shall be in accordance with AREMA Specifications, Chapter 15, Section 3.4, and recommendations of the Steel Painting Council Specifications with the following specific requirements.

The paint thickness will be measured according to "SSPC-PA2" Method for Measurement of Dry Paint Thickness with Magnetic Gages.

In addition to the requirements specified herein, all structural steel shall receive a stripe coat of paint per the Standard Specifications.

Surface Preparation

The surface preparation shall be in accordance with Steel Structures Painting Council Specifications SP 10 (NEAR WHITE BLAST) latest revision and Visual Standard NACE No. 2. Average surface profile to be 2 mils.

Application: The paint shall be applied in accordance with SSPC Specifications for Paint Application – PA1.

The Prime Coat shall be applied in the shop promptly after blast cleaning, but in no case shall the Prime Coat be applied more than 8 hours after blast cleaning or after visible or detrimental rusting occurs.

Steel shall be cleaned by washing or other mechanical means to remove all residue (loose zinc dust and foreign matter) prior to applying Wash and Top Coat.

Surfaces damaged during shipment and handling shall be repaired using the same paint system as applied in the shop except that the Prime Coat shall be repaired using an ***Organic Zinc Primer*** when the Prime Coat is repaired in the field.

Welded Areas and Faying (Contact) Surfaces

No paint shall be applied to areas to be welded in the field. No acrylic paint (wash or top coat) shall be applied to any faying surfaces.

Paint Systems

The fabricator will be given the option of using one of the following paint systems (***Prime Coat, Intermediate and Top Coats shall be applied in the fabricator's plant unless otherwise specified by the Railway.*** If the Intermediate Coat and Top Coat are applied in the field, the

steel shall be solvent wiped to remove all grease and oil and a ***“High Pressure Power Washing” with clean water (3500 psi minimum)*** shall be used to clean all mud and dirt off prior to applying the touch-up Primer or Intermediate and Top Coats. The Chief Engineer Bridges and Structures is to be notified of the fabricator’s choice. Priming of the contact surfaces with ***Inorganic Zinc-Rich Primer*** is required.

If approved or further specified by the Railway, the Wash Coat and Top Coat shall be applied in the shop. Intermediate Coat color shall be White and Stripe Coat color shall be Light Gray. Top Coat color shall be Light Gray, Paint Code: 26306 (Federal Standard 595B).

SYSTEM #1 (DAVIS-FROST)

Prime Coat: P-139 LOW V.O.C. Inorganic Zinc Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Intermediate Coat: W-112 Water Guard Metal Primer applied at 3.0 – 4.0 mils Dry Film Thickness.

Finish (Top) Coat: W-195 Water-Tuff DTM Finish applied at 3.0 – 4.0 mils Dry Film Thickness.

Touch Up Primer: P-281 (3 component) Epoxy Zinc-Rich Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Suggested Supplier: Davis-Frost, Inc.
P.O. Box 11405
Lynchburg, VA 24506
Telephone: (804) 846-5277

SYSTEM #2 (ELITE)

Prime coat: Elite 1312 Inorganic Zinc Rich Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Intermediate Coat: Elite 156 Exterior Acrylic Latex applied at 3.0 – 4.0 mils Dry Film Thickness.

Finish (Top) Coat: Elite 156 Exterior Acrylic Latex applied at 3.0 – 4.0 mils Dry Film Thickness.

Touch Up Primer: Elite 305 Organic Zinc-Rich Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Suggested Supplier: Elite Coatings Company, Inc.
P.O. Box 130
Gordon, GA 31031
Telephone: (912) 628-2111

Project C-4901A**174****Davidson County****SYSTEM #3 (DEVOE)**

Prime Coat: Cata-Coat 301 Inorganic Zinc-Rich Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Intermediate Coat: DEVRAN 646 Water Based Epoxy primer applied at 3.0 – 4.0 mils Dry Film Thickness.

Finish (Top) Coat: DEVFLEX 604-S-9903 Water Based Gloss Enamel applied at 3.0 – 4.0 mils Dry Film Thickness.

Touch Up Primer: Cata-Coat 303H Organic Zinc-Rich Epoxy applied at 4.0 – 5.0 mils Dry Film Thickness.

Suggested Supplier: Devoe Coatings Company
1519 West Liberty Avenue
Pittsburgh, PA 15226
Telephone: (412) 561-8930
Attn: Joe Basile

SYSTEM #4 (SHERWIN-WILLIAMS)

Prime Coat: ZINC CLAD II HS-(B69VZ1 B69VZ3 B69D11) Inorganic Zinc-Rich Primer applied at 4.0 – 5.0 mils Dry Film Thickness

Intermediate Coat: B66 Series DTM ACRYLIC GLOSS applied at 3.0 – 4.0 mils Dry Film Thickness.

Finish (Top) Coat: B66 Series DTM ACRYLIC GLOSS applied at 3.0 – 4.0 mils Dry Film Thickness.

Touch Up Primer: ZINC CLAD IV-(B69 A8/B69 V8) applied at 4.0 – 5.0 mils Dry Film Thickness.

Suggested Supplier: The Sherwin-Williams Company
765 North Avenue, NE
Atlanta, GA 30306
Telephone: (404) 873-6723

Project C-4901A**175****Davidson County****SYSTEM #5 (VALSPAR)**

Prime Coat: Valspar MZ-7 Inorganic Zinc-Rich Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Intermediate Coat: #61 Series Water-Acrylic Lo Sheen applied at 3.0 – 4.0 mils Dry Film Thickness.

Finish (Top) Coat: #61 Series Water-Acrylic Lo Sheen applied at 3.0 – 4.0 mils Dry Film Thickness.

Touch Up Primer: MZ-4 Epoxy Zinc-Rich Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Suggested Supplier: Corrosion Specialties, Inc.
3897 Stephens Court
P.O. Box 146
Tucker, GA 30085-0146
Telephone: (404) 938-7263
Attn: Andy Steinmann

SYSTEM #6 (AMERON)

Prime Coat: Amercoat 21-5 Inorganic Zinc-Rich Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Intermediate Coat: Amercoat 148 Waterborne Acrylic primer applied at 3.0 – 4.0 mils Dry Film Thickness.

Finish (Top) Coat: Amercoat 220 Waterborne Acrylic applied at 3.0 – 4.0 mils Dry Film Thickness.

Touch Up Primer: Amercoat 68HS Zinc-Rich Primer applied at 4.0 – 5.0 mils Dry Film Thickness.

Suggested Supplier: Ameron Protective Coatings Division
11605 Vimy Ridge Road
Little Rock, AK 72209
Telephone: 1-800-283-6627

Post-Painting Requirements

- a) Steel shall be cleaned by washing or other mechanical means to remove all residue (loose zinc dust and foreign matter) prior to applying Wash and Top Coat. An **"M.E.K. Rub Test"** shall be used to assure proper cure of the inorganic zinc primer prior to applying the next coat.
- b) **The Intermediate Coat may have to be thinned to prevent gassing.**

Painting Materials Requirements

- a) Packaging and Shipping.

All paint shall be received at the point of use in original containers and carefully stored. All paint to be used shall be freshly mixed and shall be ordered only a sufficient length of time in advance of its use to insure an adequate supply being on hand at all times so as not to delay the work.

Paint shipped to the job shall arrive in sealed containers clearly marked with the type of paint and specifications controlling its manufacture.

There shall be no modification of the paint except upon, and in accordance with, express written stipulation by an authorized representative of the paint manufacturer and with specific approval of the Engineer.

- b) Storage.

Paint in storage at the shop or in the field shall have the position of the containers reversed at least once a week to prevent settlement and separation of the pigment from the vehicle. There shall be suitable devices maintained at the point of storage and used for agitation and thorough mixing of the paint prior to its use on this work.

- c) Sample Panel.

If directed by the Engineer, a sample panel shall be made up. The panel shall be used as a basis of comparison of the work on this contract. The panel shall be of size designated by the Engineer and shall be prepared and painted in all respects in the same manner as the work will be done.

Workmanship

- a) Weather Conditions.

Paint shall not be applied when the temperature of the air is less than 40 degrees F, the surface of the metal is not dry, the relative humidity is above 85%, or when, in the opinion of the Engineer, conditions are otherwise unsatisfactory for such work. Paint shall not be applied upon damp or frosted surfaces. Material painted under cover in damp or cold

weather shall remain under cover until dry or until weather conditions permit its exposure in the open. Painting shall not be done when the metal is hot enough to cause the paint to blister and produce a porous paint film.

b) Application.

Paint shall be applied in accordance with SSPC Specifications for Paint Application-PA1 and in accordance with manufacturer's recommendations.

All blast cleaned steel surfaces shall be primed before completion of the work day.

Steel shall be cleaned by washing, brushing or other mechanical means of all residue (loose foreign matter) prior to applying the finish coat (Top Coat)

c) Removal of Unsatisfactory Paint.

If the Prime Coat "mud-cracks", the Top Coat wrinkles or shows evidence of having been applied under unfavorable conditions, or if the workmanship is poor, the Engineer may order it removed and the metal thoroughly cleaned and repainted. Any "Blushing" of the Acrylic Top Coat shall be corrected by solvent wiping and/or recoating before final acceptance by the Railway Company.

d) Thinning.

No thinner shall be used if the paint can be applied in a neat workmanlike manner without thinning. If the paint is too thick to spray, only the manufacturer's specified thinner (in hot weather, acrylic paint shall be thinned with M.I.B.K. to reduce the chances of "Blushing" occurring) may be added to the paint up to 25% by volume or as otherwise specified by the manufacturer. Thinning shall not relieve the contractor from applying the specified coating Dry Film Thickness.

e) Paint Touch-Up.

After erection, all damaged areas shall be cleaned of mud and dirt by **High Pressure Power Washing with clean water (3500 psi minimum)**; grease and oil by **solvent wiping**; and rusted areas shall be cleaned by **sand blasting** or **power tool cleaning** with non-woven abrasives prior to touch-up or Top coating. The paint used for touch-up shall be the same system used in the shop. The contractor and/or fabricator shall be responsible for cleaning all damaged surfaces and applying all field touch-up coatings in accordance with all manufacturer's recommendations. The Zinc Primer shall be touched up with only **Organic Zinc Primer** when applied in the field.

f) Warranty.

The fabricator and/or contractor will be required to guarantee his work against defective workmanship or the use of defective materials for a period of one (1) year from completion of the contract.

g) Handling Shop Primed Steel.

Only nylon web slings or padded lifting points shall be used to move shop primed steel to prevent damage to the coating.

Air Quality Requirements

Abrasive blasting operations shall be conducted in full compliance with all current ***National primary and secondary ambient air quality standards 40 CFR 50*** (for Particulate matter – 40 CFR 50.6; Lead – 40 CFR 50.12; and nuisance dust). Abrasive blasting operations shall also be compliant with any and all local state and air quality requirements.

Environmental Protection Statement

“All collection, containment, disposal and transportation for disposal must be compliant with all applicable State, Federal and Local air pollution, water pollution, solid waste and hazardous waste regulations, ordinances or statutes.”

Compensation

All work covered by this section except for shop painting will be paid for at the contract lump sum price for “Painting of Structural Steel.” Payment at the contract lump sum price for “Approx. _____ Lbs. Structural Steel” will be full compensation for the work of shop painting.

The above prices and payments will be full compensation for all work including but not limited to furnishing all paint, cleaning abrasives, cleaning solvents, and all other materials; protecting the work; protecting traffic and property; preparing and cleaning surfaces to be painted; applying paint in the shop and field; and furnishing blast cleaning equipment, paint spraying equipment, brushes, rollers, and any other hand or power tools, and any other equipment.

METAL RAIL AND WALKWAY**(SPECIAL)**

The Metal Rail and Walkway shall be as shown on the Plans. The quantity of Metal Rail and Walkway to be paid for will be the actual number of linear feet of Metal Rail and Walkway measured continuously along the top bar of the metal rail from end to end which has been completed and accepted. Full compensation for the work shall include, but is not limited to, furnishing posts, rails, fittings and all other materials and fabricating and erecting the metal rail. The quantity of metal rail as measured above will be paid for at the contract unit price per linear foot for "Metal Rail and Walkway".

Payment for wingwall handrails shall be included in the contract unit price per linear foot for "Metal Rail and Walkway".

TIE ROD SYSTEM**(SPECIAL)**

The Tie Rod System shall be installed as shown on the plans. Tie Rods shall be 1 3/8" diameter, 150 ksi bar as manufactured by Williams Form Engineering Corp. or approved equal. Washers, walers and miscellaneous steel shall be ASTM A709, Grade 50. Tie rods and hex nuts shall be galvanized in accordance with ASTM A153 and ASTM A143. Mechanical cleaning shall be utilized in the galvanizing process for the tie rods and nuts. Washers, walers and miscellaneous steel shall be galvanized in accordance with ASTM A153.

The quantity of Tie Rods to be paid for will be the actual number of Tie Rods installed. Full compensation for the work shall include, but is not limited to, furnishing steel conduit, tie rods, walers, washers, nuts, hardware and all other materials, fabrication and erection of the tie rod system and all other incidentals necessary to complete the work as shown on the plans. The quantity of Tie Rods, measured as provided herein, will be paid for at the contract unit price per each for "Tie Rods".

C203160 (C-4901A)

Davidson County

PROJECT SPECIAL PROVISION

(10-18-95)

Z-1

PERMITS

The Contractor's attention is directed to the following permits, which have been issued to the Department of Transportation by the authority granting the permit.

<u>PERMIT</u>	<u>AUTHORITY GRANTING THE PERMIT</u>
Dredge and Fill and/or Work in Navigable Waters (404)	U. S. Army Corps of Engineers
Water Quality (401)	Division of Environmental Management, DENR State of North Carolina

The Contractor shall comply with all applicable permit conditions during construction of this project. Those conditions marked by * are the responsibility of the department and the Contractor has no responsibility in accomplishing those conditions.

Agents of the permitting authority will periodically inspect the project for adherence to the permits.

The Contractor's attention is also directed to Articles 107-10 and 107-13 of the *2012 Standard Specifications* and the following:

Should the Contractor propose to utilize construction methods (such as temporary structures or fill in waters and/or wetlands for haul roads, work platforms, cofferdams, etc.) not specifically identified in the permit (individual, general, or nationwide) authorizing the project it shall be the Contractor's responsibility to coordinate with the Engineer to determine what, if any, additional permit action is required. The Contractor shall also be responsible for initiating the request for the authorization of such construction method by the permitting agency. The request shall be submitted through the Engineer. The Contractor shall not utilize the construction method until it is approved by the permitting agency. The request normally takes approximately 60 days to process; however, no extensions of time or additional compensation will be granted for delays resulting from the Contractor's request for approval of construction methods not specifically identified in the permit.

Where construction moratoriums are contained in a permit condition which restricts the Contractor's activities to certain times of the year, those moratoriums will apply only to the portions of the work taking place in the waters or wetlands provided that activities outside those areas is done in such a manner as to not affect the waters or wetlands.

DEPARTMENT OF THE ARMY PERMIT

Permittee: **NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, RAIL DIVISION**
ATTN: MARC HAMEL

Permit No.: **2009-01730**

Issuing Office: **CESAW-RG-R**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: The North Carolina Department of Transportation, Rail Division (NCDOT Rails) proposes improvements to approximately 4.2 miles of existing rail corridor located south of Bower Station to Lake Station, south of Thomasville, in Davidson County, North Carolina. The rail within the project corridor currently consists of a single track, allowing one train access to this portion of the rail at any given time. The Rail Division proposes to construct a second track adjacent to the existing track. The rail corridor north of Bowers and south of Lake currently has double tracks and this project will eliminate traffic bottlenecks. This section of rail previously contained two tracks; however, portions of the double track were removed as redundant in the 1960's as part of a signal system improvement project. Since that time, rail traffic has greatly increased and additional capacity and service reliability are needed. This project is divided into two sections:

- ☐ Rail grading (C-4901A), which will include preparation for the second track, replacement of the rail bridge superstructure over Abbott's Creek, replacement of the rail bridge over Jimmy's Creek, and rehabilitation of the rail bridge over Rich Fork Creek;
- ☐ Track work (C-4901D), which includes the installation of 4.1 miles of the second track.

In addition, the alignments of specific curves in this project rail corridor inhibit the ability to achieve high speed passenger train service. The proposed project will realign the three curves within the project rail corridor that are currently greater than 1° 30' to improve them to the 90 miles per hour design speed for higher speed passenger service. This will include the 1° 54' curve beginning just south of Jimmys Creek (depicted on the attached Design Plans as "Hamby Creek Trib") and the 2° curve that it transitions into (depicted on the attached Design Plans, Sheets 10-12). This compound curve ends just north of Lower Lake Road. The proposed project will also improve the 2° curve beginning south of Abbotts Creek (Design Plans, Sheet 18). The curve realignments will also benefit freights by reducing drag and hence reducing fuel consumption, emissions, and wheel noise. Therefore, NCDOT's track improvements within the corridor focus on increasing safety, track capacity, reliability, and train speed.

The project would permanently impact 1224 linear feet of the jurisdictional stream channels of Jimmy's Creek, a tributary of the Yakin River. In addition, impacts are proposed to 3.48 acres of jurisdictional wetlands adjacent to Jimmy's Creek. There would also be 217 linear feet of temporary jurisdictional stream channel impacts associated with construction dewatering activities.

Project Location: The project area associated with the C-4901 A, D project encompasses approximately 183.3 acres and generally consists of the area within 100 feet of the center of the existing railway and outward along Upper Lake Road (State Route [SR] 2024) and Turner Road (SR 2005). Along these roadways, the project area extends up to 1475 feet from the existing rail line with widths that range from 75 to 350 feet from the roadway center. This existing rail corridor is located south of Thomasville, in Davidson County, North Carolina. Water resources within the project area include Jimmy's Creek which is part of the Yadkin River Basin (U.S. Geological Survey [USGS] Hydrologic Unit [HUC] 03040103). The approximate midpoint of the project is:

LATITUDE & LONGITUDE: Latitude North: 35.8453° N
Longitude West: -80.1806° W

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2018. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit,

Special Conditions:

SEE ATTACHED SPECIAL CONDITIONS

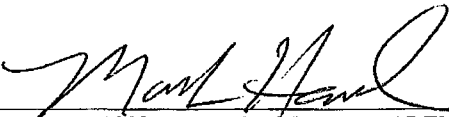
Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
 - () Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
 - (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
 - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work.
 - e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
 - a. You fail to comply with the terms and conditions of this permit.
 - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
 - c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit, unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.



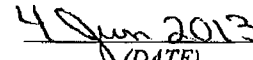
(PERMITEE) NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,
RAIL DIVISION
ATTN: MARC HAMEL



(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.


for (DISTRICT ENGINEER) STEVEN A. BAKER, COLONEL



(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFeree)

(DATE)

SPECIAL CONDITIONS
ACTION ID SAW-200901730 (TIP C-4901 A, D)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, RAIL DIVISION
BOWERS STATION TO LAKE STATION DOUBLE TRACK PROJECT

Failure to institute and carry out the details of the following special conditions below (listed as a-w) will result in a directive to cease all ongoing and permitted work within waters of the United States, including wetlands, associated with the permitted project, or such other remedies and/or fines as the U.S. Army Corps of Engineers District Commander or his authorized representatives may seek.

a) The North Carolina Division of Water Quality (DWQ) permit/certification number WQC003957 was issued for this project on May 22, 2013. Special conditions were issued associated with this water quality permit/certification and a copy of these conditions is attached as Exhibit A. These referenced conditions are hereby incorporated as special conditions of this permit.

b) All work authorized by this permit must be performed in strict compliance with the attached plans which were received on May 7, 2013. These plans are a part of this permit and identified as Exhibit B. Any modification to these plans must be approved by the US Army Corps of Engineers (USACE) prior to implementation.

c) The permittee shall schedule a preconstruction meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Raleigh Regulatory Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all of the terms and conditions contained within this Department of the Army Permit. The permittee shall provide the USACE, Raleigh Regulatory Field Office, NCDOT Regulatory Project Manager, with a copy of the final plans at least two weeks prior to the preconstruction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The permittee shall schedule the preconstruction meeting for a time when the USACE and North Carolina Division of Water Quality (NCDWQ) Project Managers can attend. The permittee shall invite the Corps and NCDWQ Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedule and participate in the required meeting.

d) Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with this project.

e) Except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within waters or wetlands or to reduce the reach of waters or wetlands.

SPECIAL CONDITIONS
ACTION ID SAW-200901730 (TIP C-4901 A, D)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, RAIL DIVISION
BOWERS STATION TO LAKE STATION DOUBLE TRACK PROJECT

- * f) Compensatory mitigation of 1224 warm-water stream mitigation credits and 3.48 acre of permanent Riparian-Nonriverine wetland credits associated with the project will be provided by North Carolina Ecosystem Enhancement Program (NCEEP), as outlined in the letter dated March 26, 2013, from James B. Stanfill, EEP Asset Management Supervisor. In order to compensate for this wetland impact associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit authorization.
- g) All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the N.C. Division of Water Quality at 1 (800) 858-0368 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.
- * h) The permittee shall advise the Corps in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.
- i) Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used.
- j) The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit. A copy of this permit, including all conditions, shall be available at the project site during construction and maintenance of this project
- k) The permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).
- l) The permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.

SPECIAL CONDITIONS
ACTION ID SAW-200901730 (TIP C-4901 A, D)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, RAIL DIVISION
BOWERS STATION TO LAKE STATION DOUBLE TRACK PROJECT

- m) During the clearing phase of the project, heavy equipment must not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of non-erodible materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.
- n) No fill or excavation for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless it is included on the plan drawings and specifically authorized by this permit.
- o) The permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.
- p) Violations of these conditions or violations of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the permittee's discovery of the violation.
- * q) The permittee will ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Written verification shall be provided that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Raleigh Regulatory Field Office prior to any active construction in waters or wetlands.
- * r) Prior to commencing construction within jurisdictional waters of the United States for any portion of the proposed project, the permittee shall forward the latest version of project construction drawings to the Corps of Engineers, Raleigh Regulatory Field Office NCDOT Regulatory Project Manager. Half-size drawings will be acceptable.
- s) The permittee shall take measures to prevent live or fresh concrete from coming into contact with any surface waters until the concrete has hardened.
- t) Measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed opening should be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gauge data, if available. In the absence of such data, bankfull flow can be used as a comparable level.

SPECIAL CONDITIONS
ACTION ID SAW-200901730 (TIP C-4901 A, D)
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, RAIL DIVISION
BOWERS STATION TO LAKE STATION DOUBLE TRACK PROJECT

u) Culverts greater than 48 inches in diameter will be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter or less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain the existing channel slope. The bottom of the culvert must be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions. Destabilizing the channel and head cutting upstream should be considered in the placement of the culvert. A waiver from the depth specifications in this condition may be requested in writing. The waiver will be issued if it can be demonstrated that the proposal would result in the least impacts to the aquatic environment.

v) To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent wetlands and streams, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. The permittee shall provide the USACE with appropriate maps indicating the locations of proposed borrow or waste sites as soon as the permittee has that information. The permittee will coordinate with the USACE before approving any borrow or waste sites that are within 400 feet of any streams or wetlands.

w) If the permittee discovers any previously unknown historic or archaeological sites while accomplishing the authorized work, he shall immediately stop work and notify the Corps of Engineers, Raleigh Regulatory Field Office NCDOT Regulatory Project Manager who will initiate the required State/Federal coordination.

U.S. ARMY CORPS OF ENGINEERS

Wilmington District

*** Compensatory Mitigation Responsibility Transfer Form**

Permittee: North Carolina Department of Transportation, Rail Division

Action ID: SAW- 200901730

Project Name: Bowers Station to Lake Station safety upgrades TIP C-4901 A, D

County: Davidson

Instructions to Permittee: The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Ecosystem Enhancement Program (NCEEP), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that to the U.S. Army Corps of Engineers (USACE) Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate mitigation Sponsors.

Instructions to Sponsor: The Sponsor must verify that the mitigation requirements shown below are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether or not they have received payment from the Permittee. Once the form is signed, the Sponsor must update the appropriate ledger and provide a copy of the signed form to the Permittee and to the USACE Bank/In-Lieu Fee Program Manager. The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

Permitted Impacts and Compensatory Mitigation Requirements:

Permitted Impacts Requiring Mitigation*			8-digit HUC and Basin: 03040103, Lower Yadkin River Basin			
Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
1224				3.48		

*If more than one mitigation sponsor will be used for the permit, only include Impacts to be mitigated by this sponsor.

Compensatory Mitigation Requirements:

8-digit HUC and Basin: 03040103 Lower Yadkin River Basin

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
1224				3.48		

Mitigation Site Debited: NCEEP

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCEEP, list NCEEP. If the NCEEP acceptance letter identifies a specific site, also list the specific site to be debited).

Section to be completed by the Mitigation Sponsor

Statement of Mitigation Liability Acceptance: I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCEEP), as approved by the USACE, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

Mitigation Sponsor Name: _____

Name of Sponsor's Authorized Representative: _____

Signature of Sponsor's Authorized Representative_____
Date of Signature

**USACE Wilmington District
Compensatory Mitigation Responsibility Transfer Form, Page 2**

Conditions for Transfer of Compensatory Mitigation Credit:

- Once this document has been signed by the Mitigation Sponsor and the USACE is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the USACE is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. For authorized Impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by the Sponsor must be provided to the USACE within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the USACE has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the USACE Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the USACE, the Sponsor must obtain case-by-case approval from the USACE Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the USACE administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions:

This form is not valid unless signed by the mitigation Sponsor and USACE Project Manager. For questions regarding this form or any of the conditions of the permit authorization, contact the Project Manager at the address below.

USACE Project Manager: John Thomas
USACE Field Office: Raleigh Regulatory Field Office
US Army Corps of Engineers
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587
Email: john.t.thomas.jr@saw02.usace.army.mil



USACE Project Manager Signature

May 30, 2013

Date of Signature

Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at <http://ribits.usace.army.mil>.

Applicant: <u>Mr. Marc Hamel, North Carolina</u> <u>Department of Transportation, Rail</u> <u>Division, Bowers Station to Lake Station</u> <u>Double Track Project TIP C-4901 A, D</u>		File Number: <u>SAW- 2009-01730</u>	Date: <u>May 30, 2013</u>
Attached is:		See Section below	
☒	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
☐	PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
☐	PERMIT DENIAL	C	
☐	APPROVED JURISDICTIONAL DETERMINATION	D	
☐	PRELIMINARY JURISDICTIONAL DETERMINATION	E	

SECTION I: The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/inet/functions/cw/ceowo/reg> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the district engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION

If you have questions regarding this decision and/or the appeal process you may contact:

District Engineer, Wilmington Regulatory Division,
Attn: John Thomas
69 Darlington Avenue
Wilmington, North Carolina 28403

If you only have questions regarding the appeal process you may also contact:

Mr. Jason Steele, Administrative Appeal Review Officer
CESAD-PDO
U.S. Army Corps of Engineers, South Atlantic Division
60 Forsyth Street, Room 10M15
Atlanta, Georgia 30303-8801
Phone: (404) 562-5137

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:
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For appeals on Initial Proffered Permits send this form to:

District Engineer, Wilmington Regulatory Division, Attn: John Thomas, 69 Darlington Avenue, Wilmington, North Carolina 28403

For Permit denials, Proffered Permits and approved Jurisdictional Determinations send this form to:

Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Jason Steele, Administrative Appeal Officer, CESAD-PDO, 60 Forsyth Street, Room 10M15, Atlanta, Georgia 30303-8801 Phone: (404) 562-5137



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Division of Water Quality
Charles Wakild, P. E.
Director

John Skvarla, III
Secretary

May 22, 2013

Marc Hamel, P.E.
Rail Division Engineer
North Carolina Department of Transportation-Rail Division
1553 Mail Service Center
Raleigh, North Carolina, 27699-1553

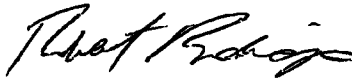
Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000 with ADDITIONAL CONDITIONS for Proposed improvements to Bowers to Lake Rail in Davidson County, Federal Aid Project No. FR-HSR-00S(681), State Project No. WBS No. 490101.1.STR04, TIP C-4901AD
NCDWQ Project No. 20130037

Dear Dr. Thorpe:

Attached hereto is a copy of Certification No. 3957 issued to The North Carolina Department of Transportation (NCDOT) dated May 22, 2013.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,


for Charles Wakild
Director

Attachments

cc: Scott Davis, Axiom Environmental, inc. (electronic copy only)
John Thomas, US Army Corps of Engineers, Raleigh Field Office (electronic copy only)
Kent Boyer, Division 9 Environmental Officer (electronic copy only)
Chris Millitscher, Environmental Protection Agency (electronic copy only)
Marla Chambers, NC Wildlife Resources Commission (electronic copy only)
Beth Harmon, Ecosystem Enhancement Program (electronic copy only)
NCDWQ Transportation Permitting Unit (electronic copy only)
File Copy

Transportation and Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6488
Internet: www.ncwaterquality.org

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401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000 with ADDITIONAL CONDITIONS

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (NCDWQ) Regulations in 15 NCAC 2H .0500 and ISOLATED WETLANDS PERMIT. This certification authorizes the NCDOT to impact 3.48 acres of jurisdictional wetlands, 0.53 acres of isolated wetlands, and 1467 linear feet of jurisdictional streams in Davidson County. The project shall be constructed pursuant to the application dated received January 9, 2013 with additional information dated received March 18, 2013, March 28, 2013, and May 7, 2013. The authorized impacts are as described below:

Stream Impacts in the Yadkin-Pee Dee River Basin

Site (Stream)	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
1 (Stream 1)			102	7	109	
1 (Stream 2)			102	4	106	
1 (Stream 3)	47				47	
2 (Stream 4)	114	10			124	
3 (Stream 5)	112	32			144	
4 (Stream 6)	220	6			226	220
5 (Stream 7)	50	5			55	
6 (Stream 9)	112	17			129	
9 (Stream 11)				40	40	
11 (Stream 12)			44		44	
11 (Stream 13)	71				71	
12 (Stream 14)	204	19			223	204
14 (Stream 20)		61			61	
18 (Stream 24)			46	16	62	
TOTAL	930	150	294	67	1441	424

Total Stream Impact for Project: 1441 linear feet

Wetland Impacts in the Yadkin-Pee Dee River Basin

Site (Wetland no.)	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)	Impacts Requiring Mitigation (ac)
8 (Wetland 5)	0.09			0.10		0.19	0.19
10 (Wetland 7)	0.17			0.07		0.24	0.24
11 (Wetland 9)	1.98		0.02	0.25		2.25	2.25
13 (Wetland 13)	0.01			0.02		0.03	0.03
15 (Wetland 20)	0.04			0.03		0.07	0.07
16 (Wetland 21)	0.45			0.18		0.63	0.63
17 (Wetland 23)	0.03			0.04		0.07	0.07
Total	2.77	0.00	0.02	0.69	0.00	3.48	3.48

Total Wetland Impact for Project: 3.48 acres

Isolated Wetland Impacts in the Yadkin-Pee Dee River Basin

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)
7 (Wetland 4)	0.38			0.15		0.53
TOTAL	0.38	0.00	0.00	0.15	0.00	0.53

Note: Isolated wetland impact is a mitigable impact.

Total Isolated Wetland Impact for Project: 0.53 acres.

The application provides adequate assurance that the discharge of fill material into the waters of the Yadkin-Pee Dee River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated received March 18, 2013, March 28, 2013, and May 7, 2013. Should your project change, you are required to notify the NCDWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Condition(s) of Certification:

Project Specific Conditions

- * 1. Compensatory mitigation for 424 linear feet of impact to streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated March 26, 2012 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the EEP Mitigation Banking Instrument signed July 28, 2010.
- * 2. Compensatory mitigation for impacts to 4.01 acres of riverine wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has indicated in a letter dated March 28, 2013 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the North Carolina Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument signed July 28, 2010.
3. The NCDOT Division Environmental Officer or Environmental Assistant will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the potential issues with stream and pipe alignment at the permitted site. NCDWQ staff shall be invited to the pre-construction meeting.
4. Post-construction stormwater shall be designed as approved in stormwater management plans dated received March 28, 2013, March 28, 2013, and May 7, 2013. If any changes are made to the post-construction stormwater design, the Division of Water Quality shall be contacted for approval of the changes.
- * 5. Two copies of the final construction drawings shall be furnished to NCDWQ Central Office prior to the pre-construction meeting. The permittee shall provide written verification that the final construction drawings comply with the permit drawings contained in the application dated received May 7, 2013. Any deviations from the approved drawings are not authorized unless approved by the NC Division of Water Quality.
6. NCDOT shall be in compliance with the NCS00250 issued to the NCDOT, including the applicable requirements of the NCG01000. Please note the extra protections for the special or threatened waters.
7. Tall fescue shall not be used in the establishment of temporary or permanent groundcover within riparian areas. For the establishment of permanent herbaceous cover, erosion control matting shall be used in conjunction with an appropriate native seed mix on disturbed soils within the riparian area and on disturbed steep slopes with the following exception. Erosion control matting is not necessary if the area is contained by perimeter erosion control devices such as silt fence, temporary sediment ditches, basins, etc. Matting should be secured in place

- with staples, stakes, or wherever possible, live stakes of native trees. Erosion control matting placed in riparian areas shall not contain a nylon mesh grid, which can impinge and entrap small animals. For the establishment of temporary groundcover within riparian areas, hydroseeding along with wood or cellulose based hydro mulch applied from a fertilizer- and limestone-free tank is allowable at the appropriate rate in conjunction with the erosion control measures. Discharging hydroseed mixtures and wood or cellulose mulch into surface waters is prohibited. Riparian areas are defined as a distance 25 feet landward from top of stream bank.
8. Channel relocations shall be completed and stabilized, prior to diverting water into the new channel. Stream banks shall be matted with coir-fiber matting. Vegetation used for bank stabilization shall be limited to native riparian vegetation, and should include establishment of a vegetated buffer on both sides of the relocated channel to the maximum extent practical. Also, rip-rap may be allowed if it is necessary to maintain the physical integrity of the stream, but the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage requested. Once the stream has been turned into the new channel, it may be necessary to relocate stranded fish to the new channel to prevent fish kills.
 9. All portions of the proposed project draining to 303(d) listed watersheds that are impaired due to biological criteria exceedances shall not discharge stormwater directly to surface waters. Stormwater shall be treated using appropriate best management practices (e.g., vegetated conveyances, constructed wetlands, detention ponds, etc.) prior to discharging to surface waters.
 10. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWQ. If this condition is unable to be met due to bedrock, steep slopes or other limiting features encountered during construction, please contact NCDWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.
 11. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
 12. Pipes and culverts used exclusively to maintain equilibrium in wetlands, where aquatic life passage is not a concern, shall not be buried. These pipes shall be installed at natural ground elevation.
 13. Strict adherence to the most recent version of NCDOT's Best Management Practices For Bridge Demolition and Removal approved by the US Army Corps of Engineers is a condition of the Individual Water Quality Certification.
 14. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of *Stormwater Best Management Practices*.
 15. Bridge piles and bents shall be constructed using driven piles (hammer or vibratory) or drilled shaft construction methods. More specifically, jetting or other methods of pile driving are prohibited without prior written approval from NCDWQ first.
 16. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly.
 17. All pile driving or drilling activities shall be enclosed in turbidity curtains unless otherwise approved by NCDWQ in this certification.
 18. All bridge construction shall be performed from the existing bridge, temporary work bridges, temporary causeways, or floating or sunken barges. If work conditions require barges, they shall be floated into position and then sunk. The barges shall not be sunk and then dragged into position. Under no circumstances should barges be dragged along the bottom of the surface water.
 19. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.
 20. For the 217 linear feet of streams being impacted due to site dewatering activities, the site shall be graded to its preconstruction contours and revegetated with appropriate native species.
 21. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species.
 22. The stream channel shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species.

General Conditions

1. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.
2. The Permittee shall report any violations of this certification to the Division of Water Quality within 24 hours of discovery.
3. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
4. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.
5. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions.
6. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage.
- * 7. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval.
8. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
9. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream.
10. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
11. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification.
12. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
13. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If NCDWQ determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, NCDWQ may reevaluate and modify this certification.
14. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification..
15. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.
16. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
- * 17. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify NCDWQ when all work included in the 401 Certification and Isolated Wetlands Permit have been completed.
18. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction.
19. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.
20. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards:
 - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.

- b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
 - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
 - d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.
21. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission.
The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919)-431-3000, Facsimile: (919)-431-3100

A copy of the petition must also be served on DENR as follows:

Mr. William Cary, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center

This the 22th day of May 2013

DIVISION OF WATER QUALITY


Charles Wakild
Director

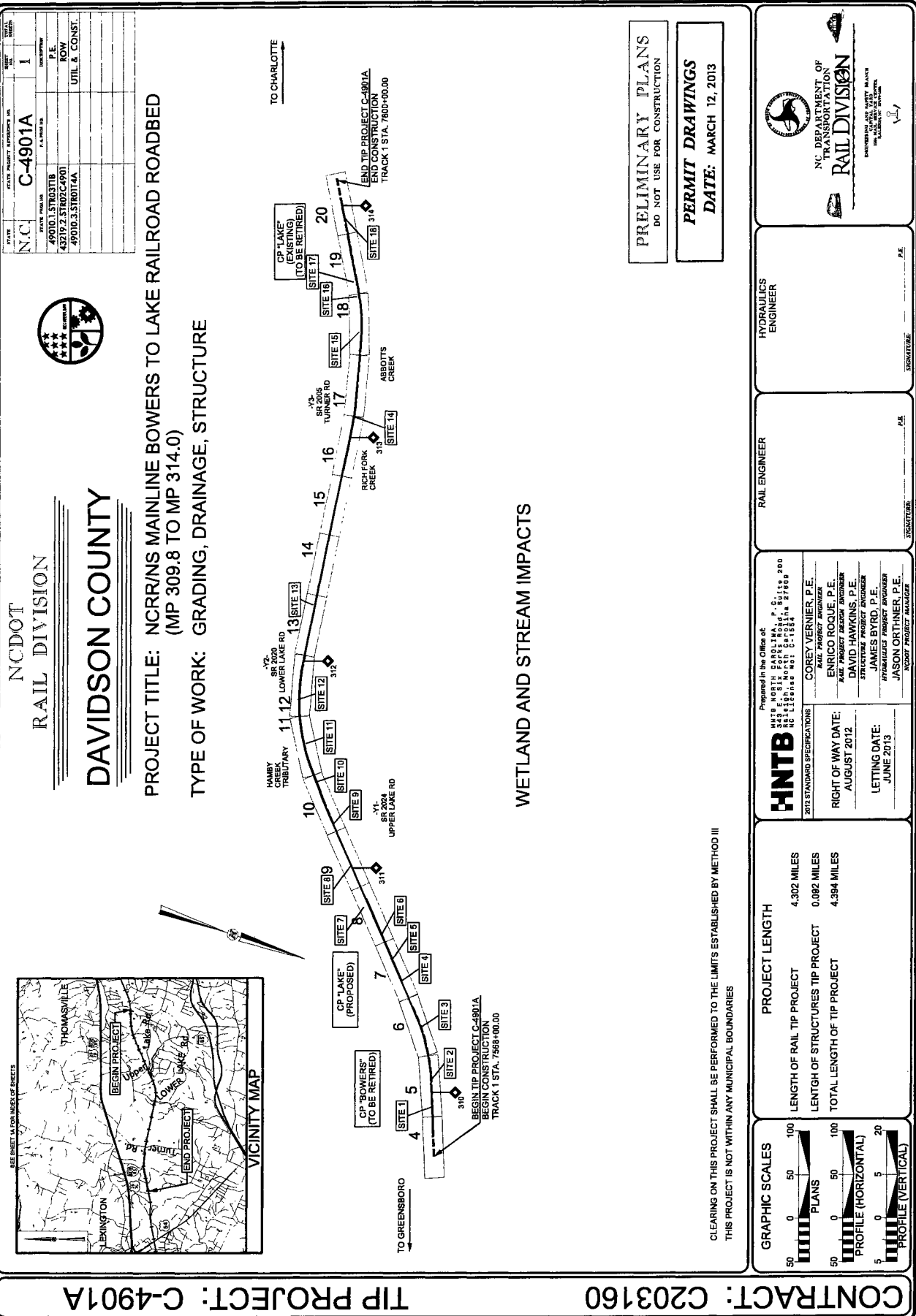
WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	7579+43	42" WSP	-	-	-	-	-	0.02	0.01	251	11	-
2	7585+31	42" WSP	-	-	-	-	-	0.01	0.01	114	10	-
3	7597+56	72" WSP	-	-	-	-	-	0.01	0.01	112	32	-
4	7609+12	36" WSP	-	-	-	-	-	0.03	0.01	220	6	-
5	7614+60	36" WSP	-	-	-	-	-	0.01	0.01	50	5	-
6	7620+60	48" WSP	-	-	-	-	-	0.01	0.01	112	17	-
7	7624+94 to 7632+34 LT	Fill Slope	0.38	-	-	0.15	-	-	-	-	-	-
8	7635+60 to 7640+75 LT	Fill Slope	0.09	-	-	0.10	-	-	-	-	-	-
9	7648+60 LT	Ditch Excavation	-	-	-	-	-	-	0.01	-	40	-
10	7656+00 to 7662+45 RT	Fill Slope	0.17	-	0.008	0.07	-	-	-	-	-	-
11	7662+50 to 7674+12 RT	Fill Slope	1.98	-	0.016	0.25	-	0.02	-	115	-	-
12	7676+66	54" BCCMP	-	-	-	-	-	0.02	0.01	204	19	-
13	7700+00 to 7701+87 LT	Fill Slope	0.01	-	-	0.02	-	-	-	-	-	-
14	7745+00	Ditch Excavation	-	-	-	-	-	-	0.01	-	61	-
15	7763+50 to 7764+67 LT	Fill Slope	0.04	-	-	0.03	-	-	-	-	-	-
16	7766+32 to 7775+62 LT	Fill Slope	0.45	-	-	0.18	-	-	-	-	-	-
17	7776+00 to 7778+50 LT	Fill Slope	0.03	-	-	0.04	-	-	-	-	-	-
18	7790+66	48" WSP	-	-	-	-	-	0.01	0.01	46	16	-
			-	-	-	-	-	-	-	-	-	-
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TOTALS:			3.13	0.00	0.02	0.84	0.00	0.12	0.02	1224	217	0

WSP - WELDED STEEL PIPE
BCCMP - BITUMINOUS COATED CORRUGATED METAL PIPE

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BOWERS TO LAKE GRADE SEPARATION
AND DOUBLETRACK PROJECT
C-4901 A/D

OF 4/25/2013



NEW 6-11-1

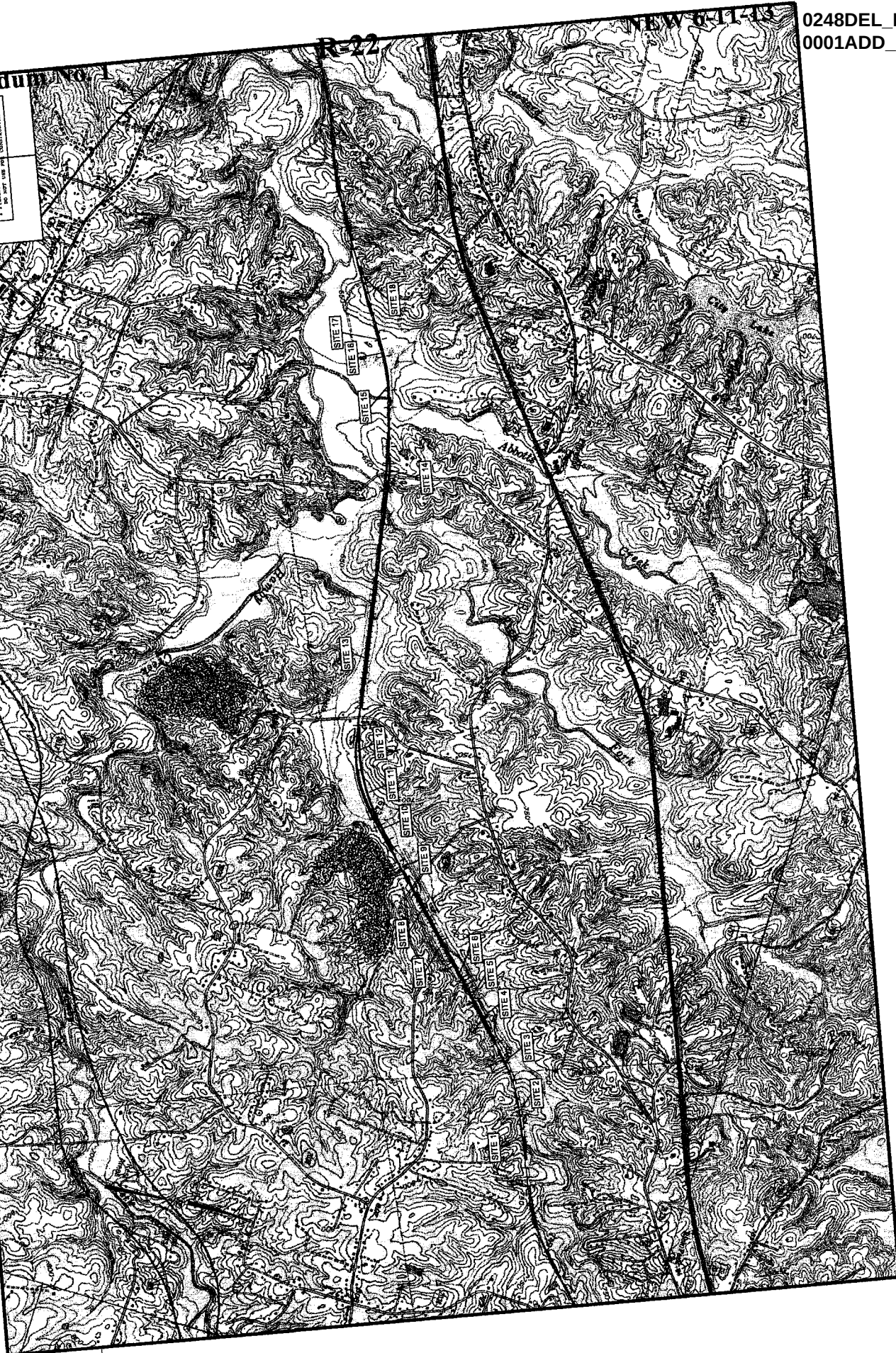
RE-22

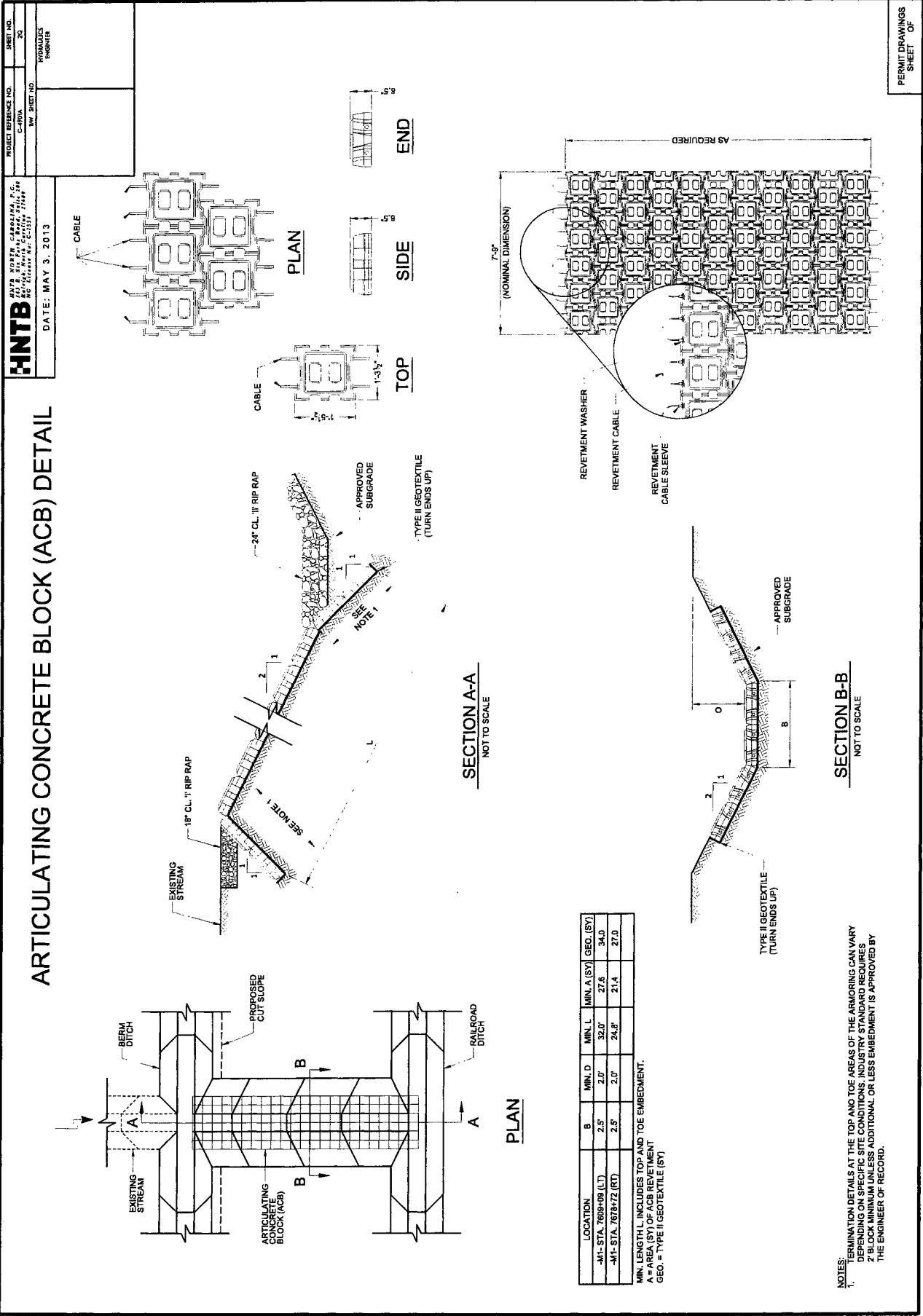
Addendum No.

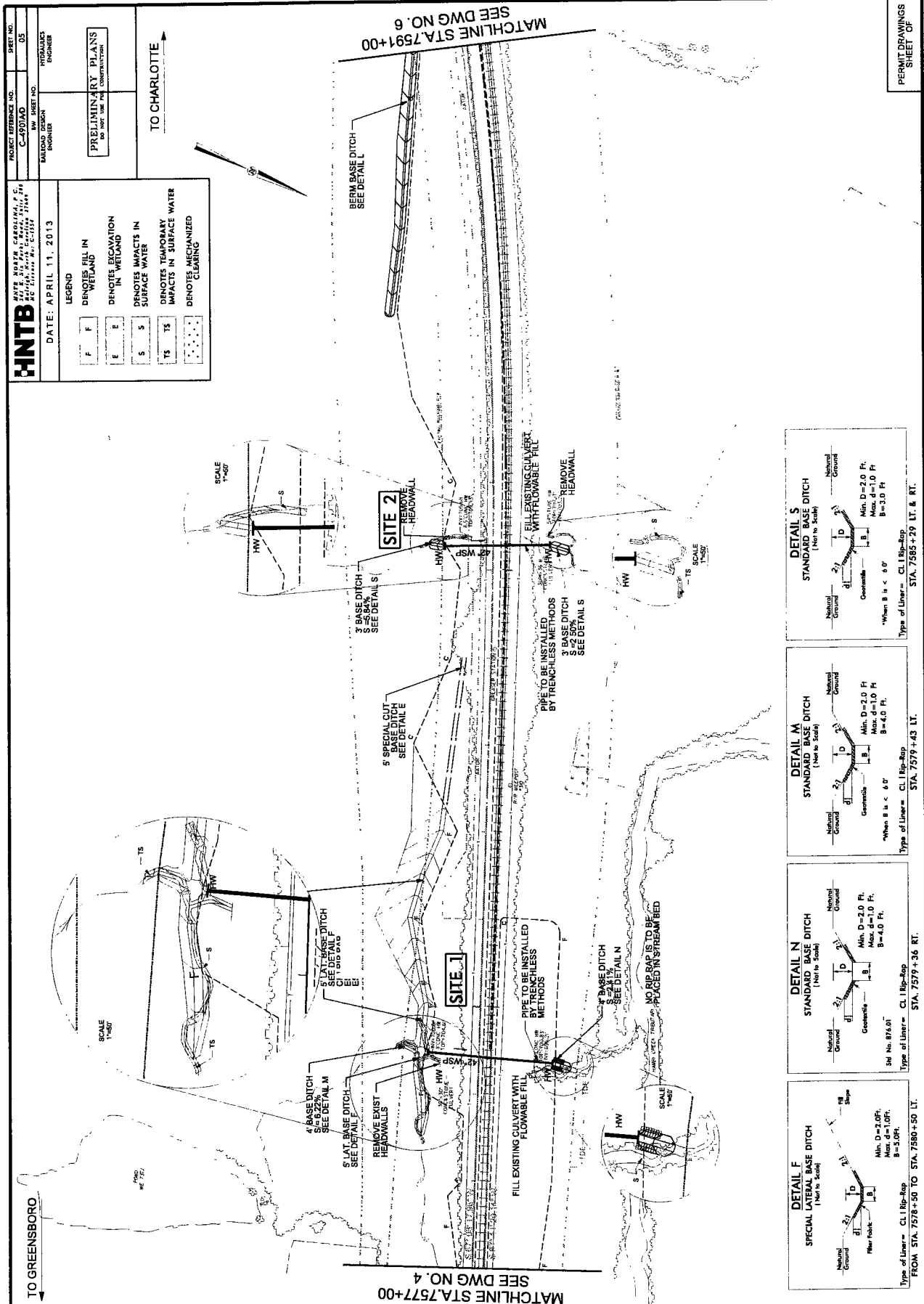
PROJECT REFERENCE NO.	SHEET NO.
C-ROAD	
SW SHEET NO.	HYDRAULICS ENGINEER
RAILROAD DESIGN ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

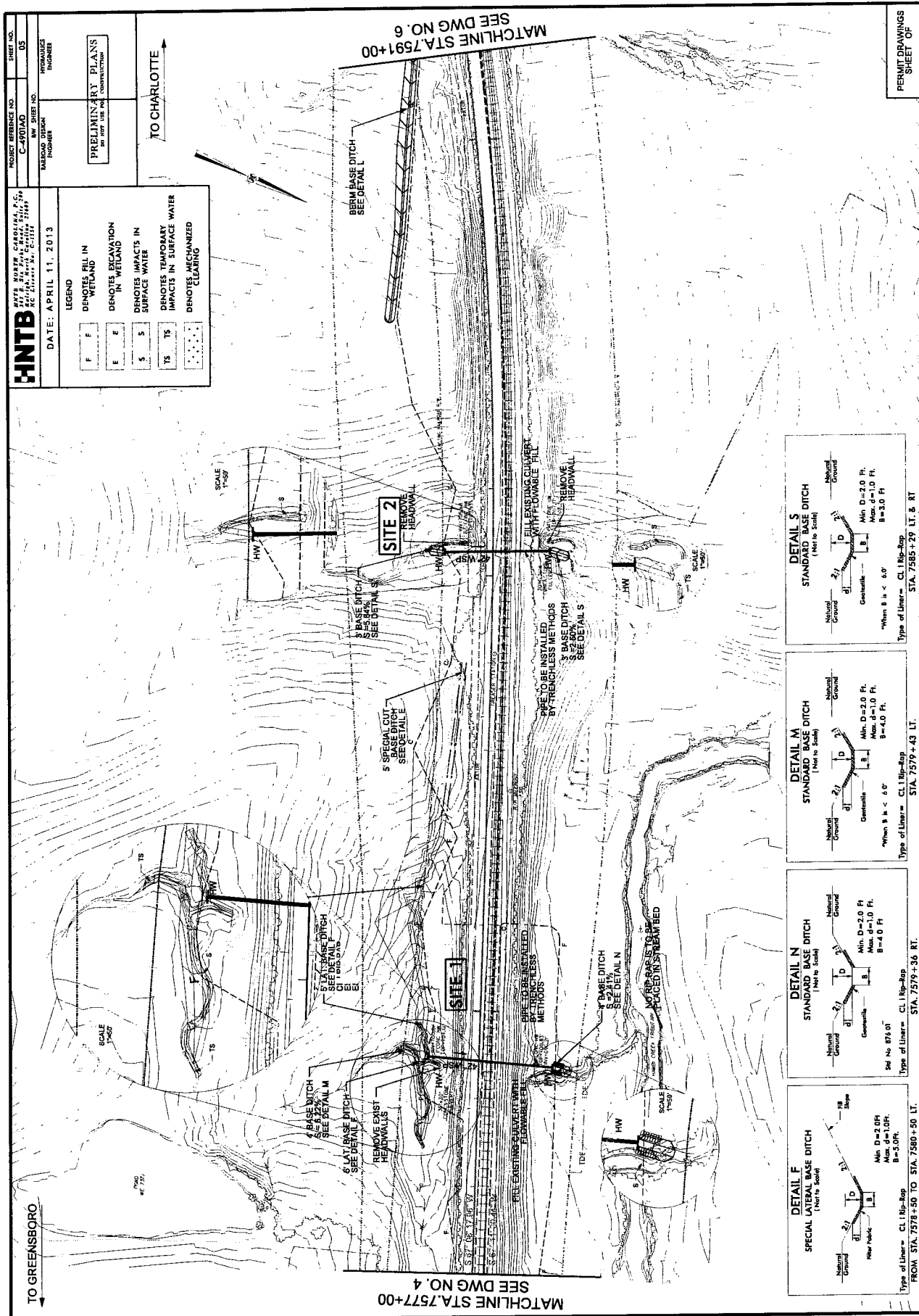
DATE: MARCH 12, 2013

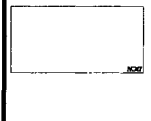
HNTB
HNTB Associates, Inc.
343 E. Six Fath. Road, Suite 200
Raleigh, North Carolina 27601
NC License No: C-1151

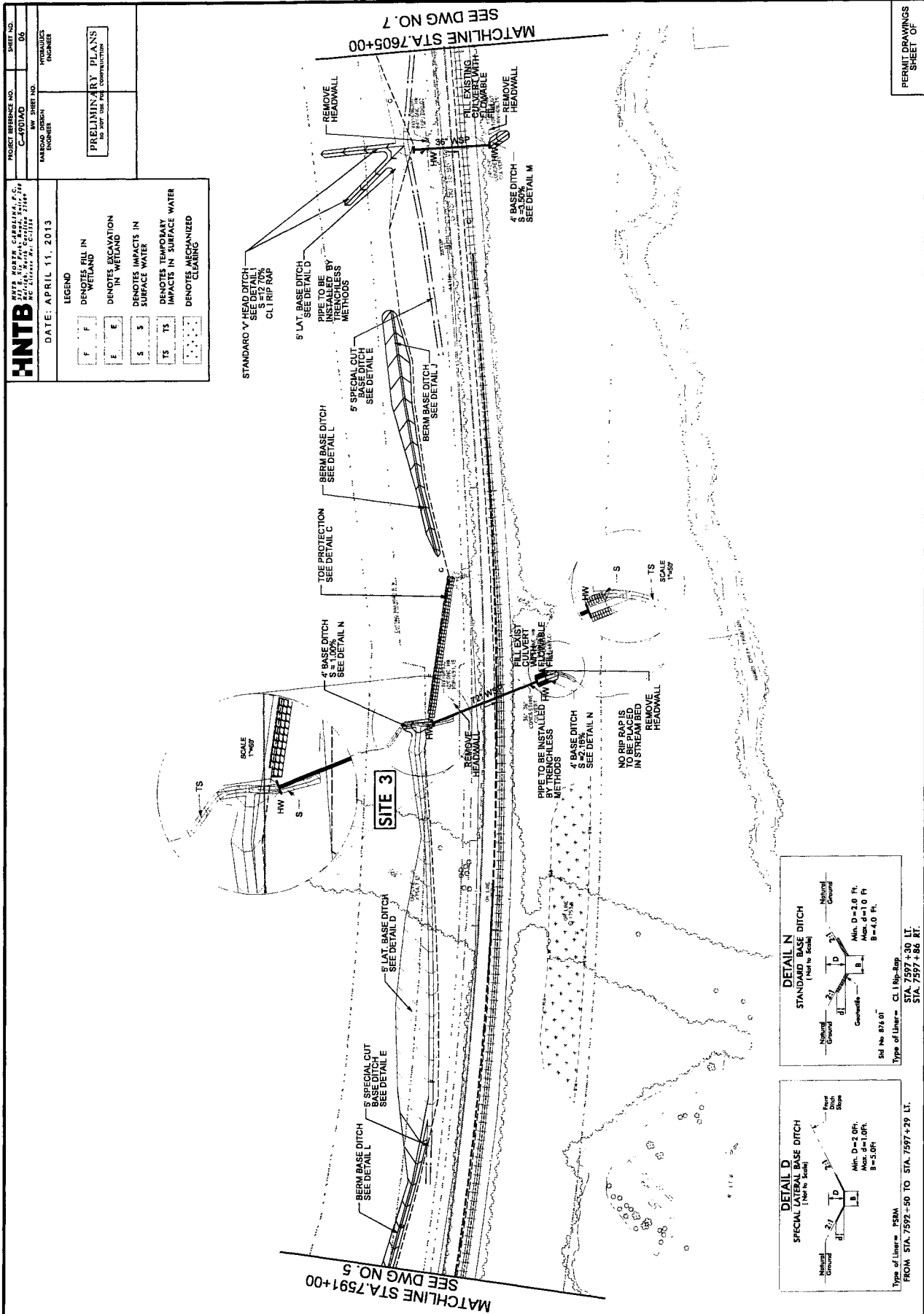


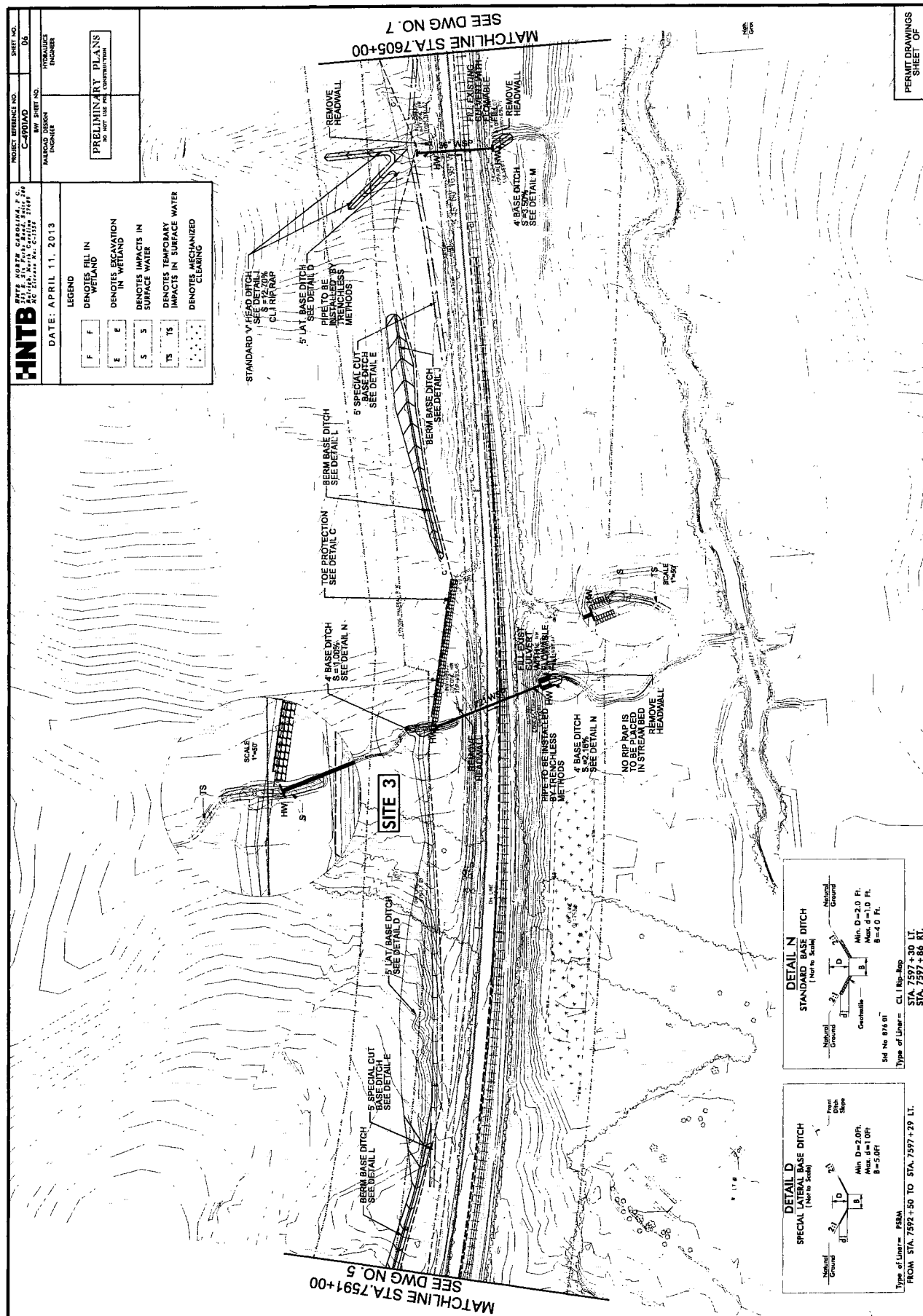




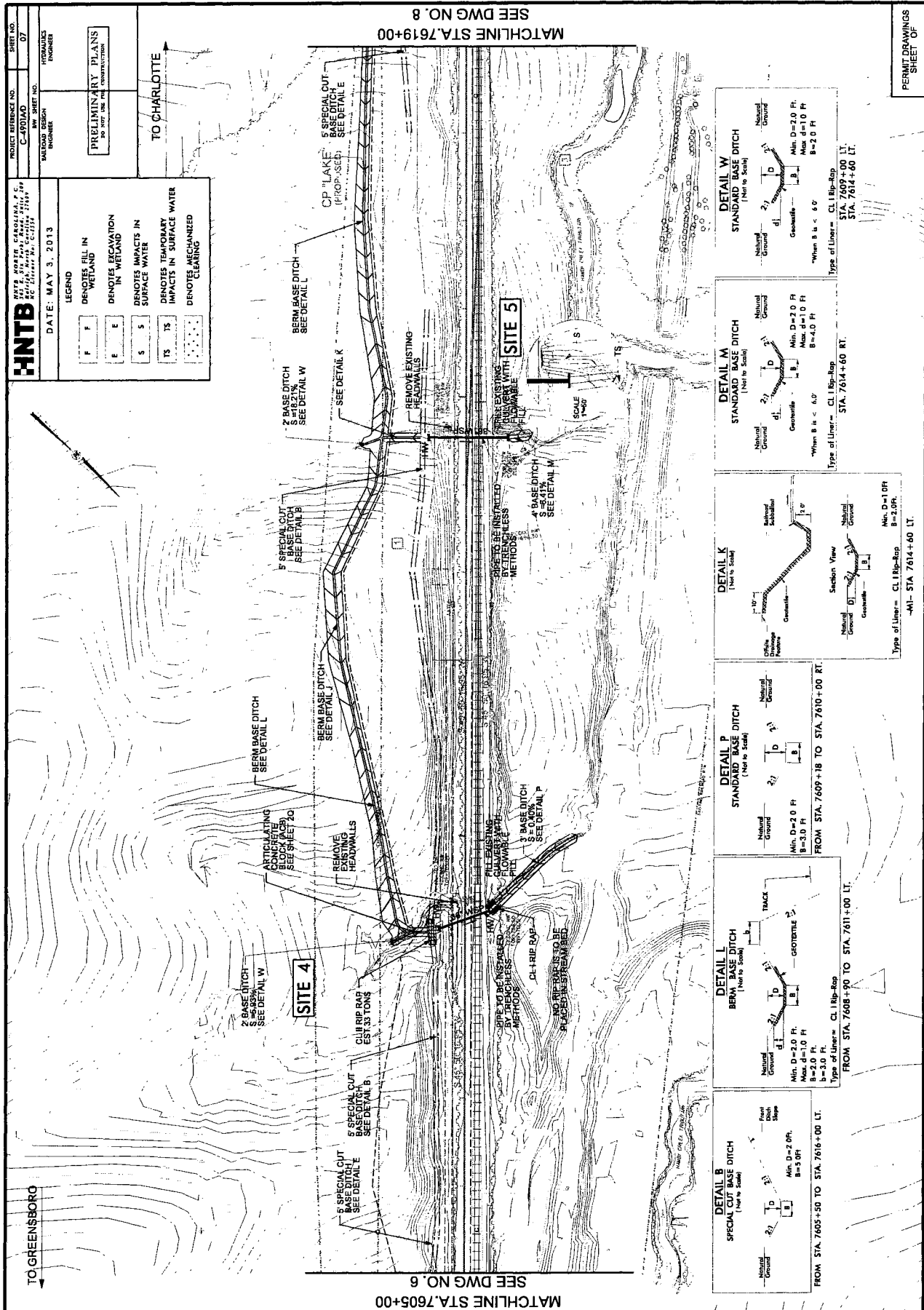


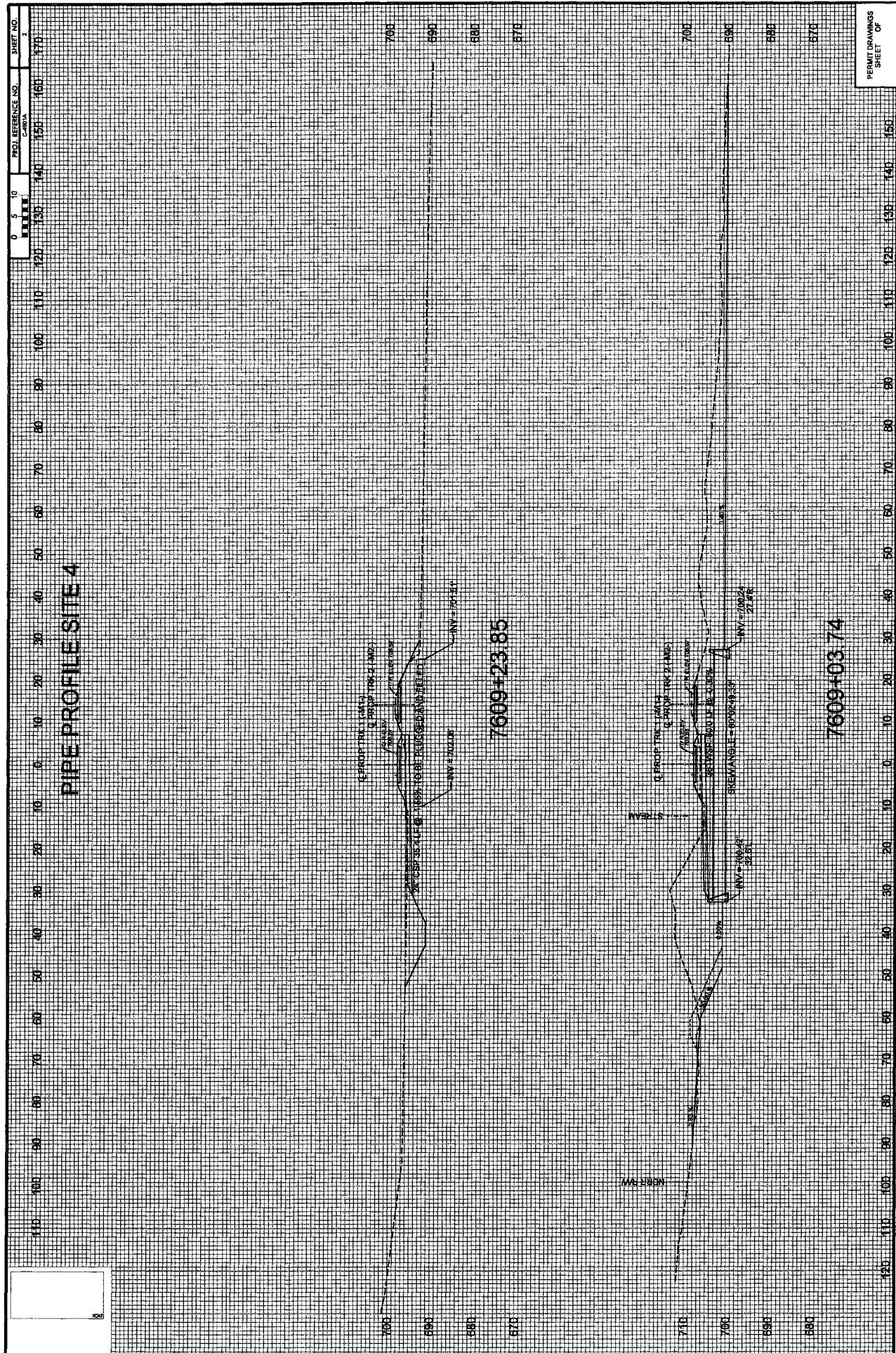


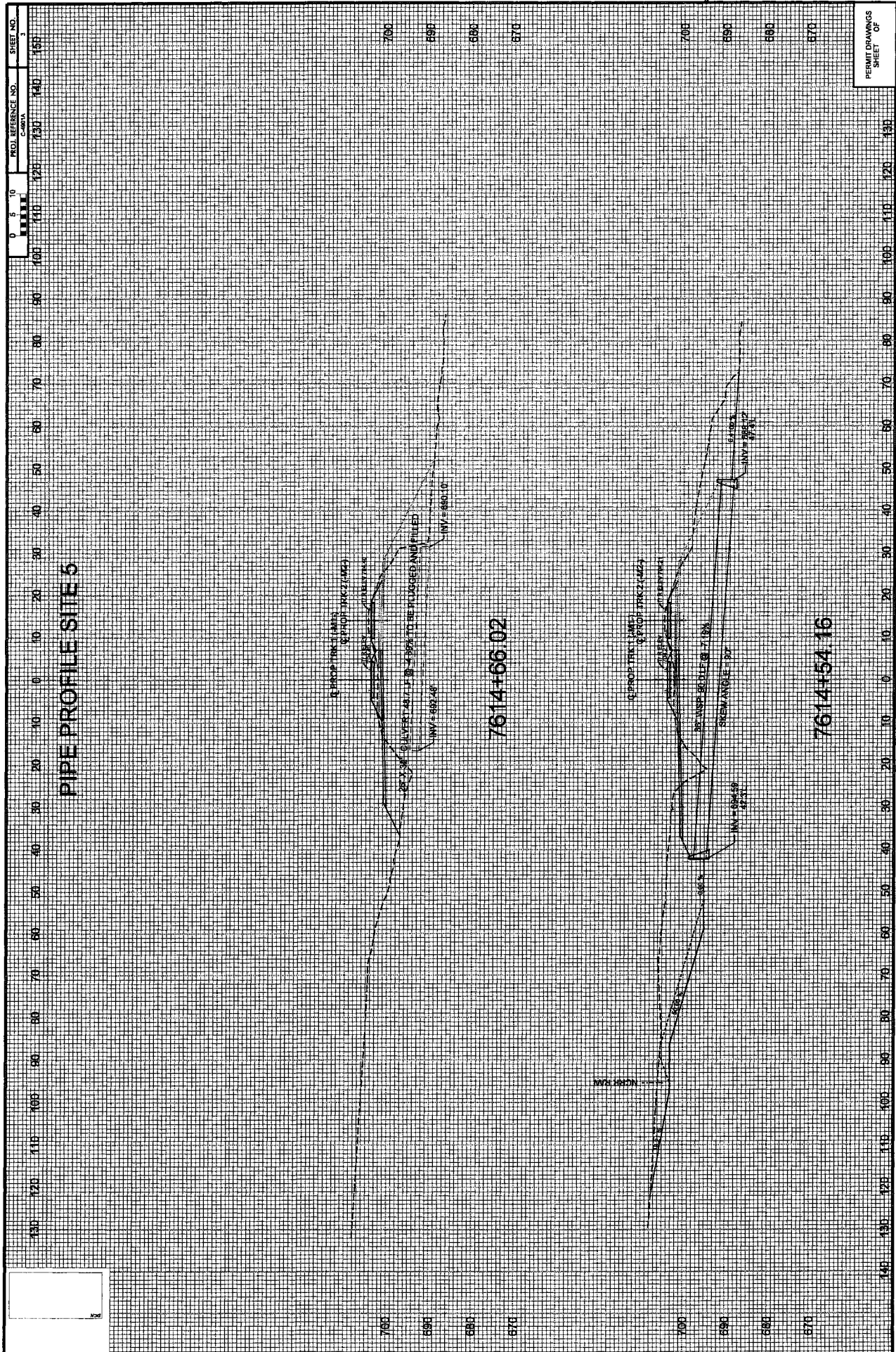


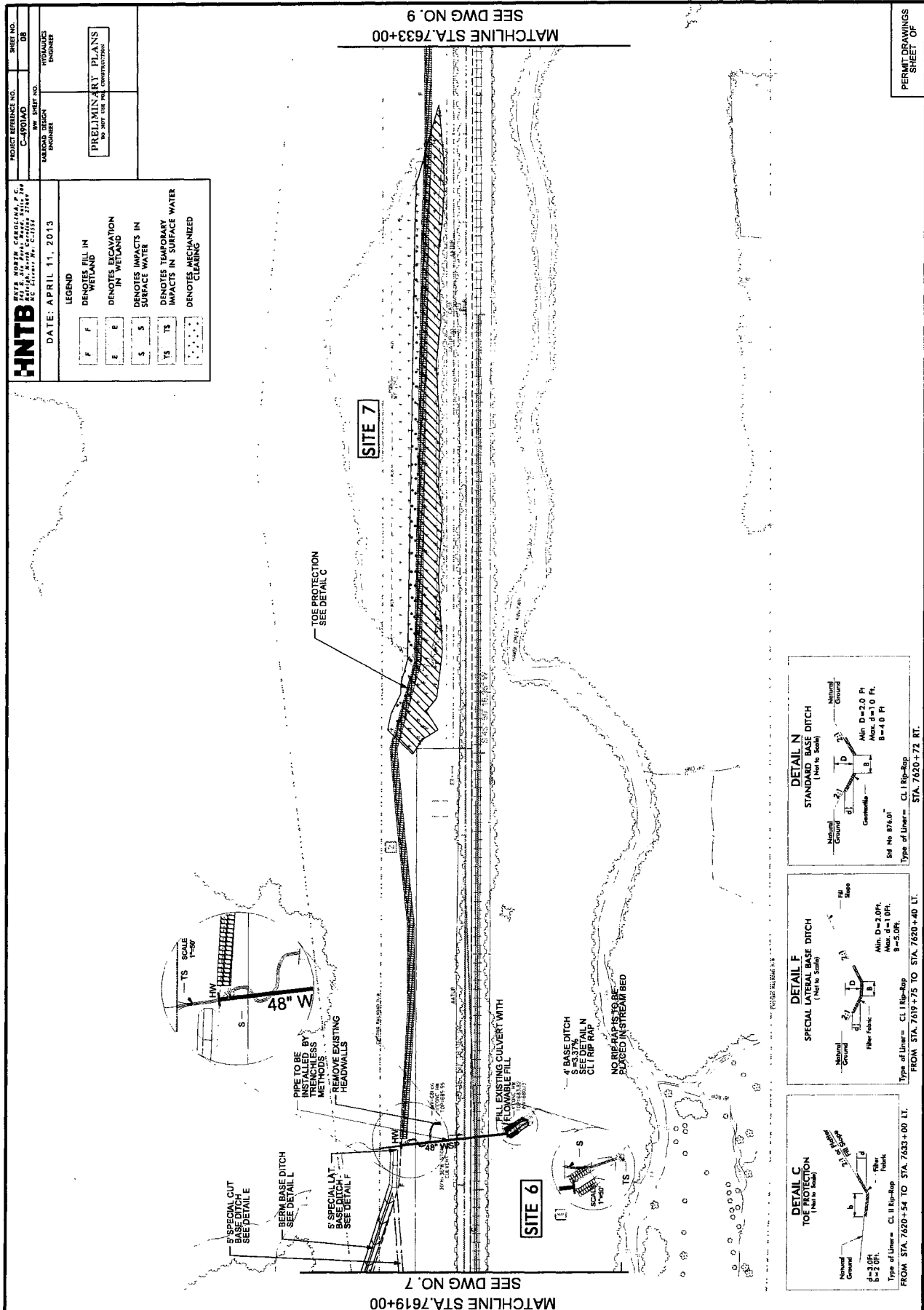


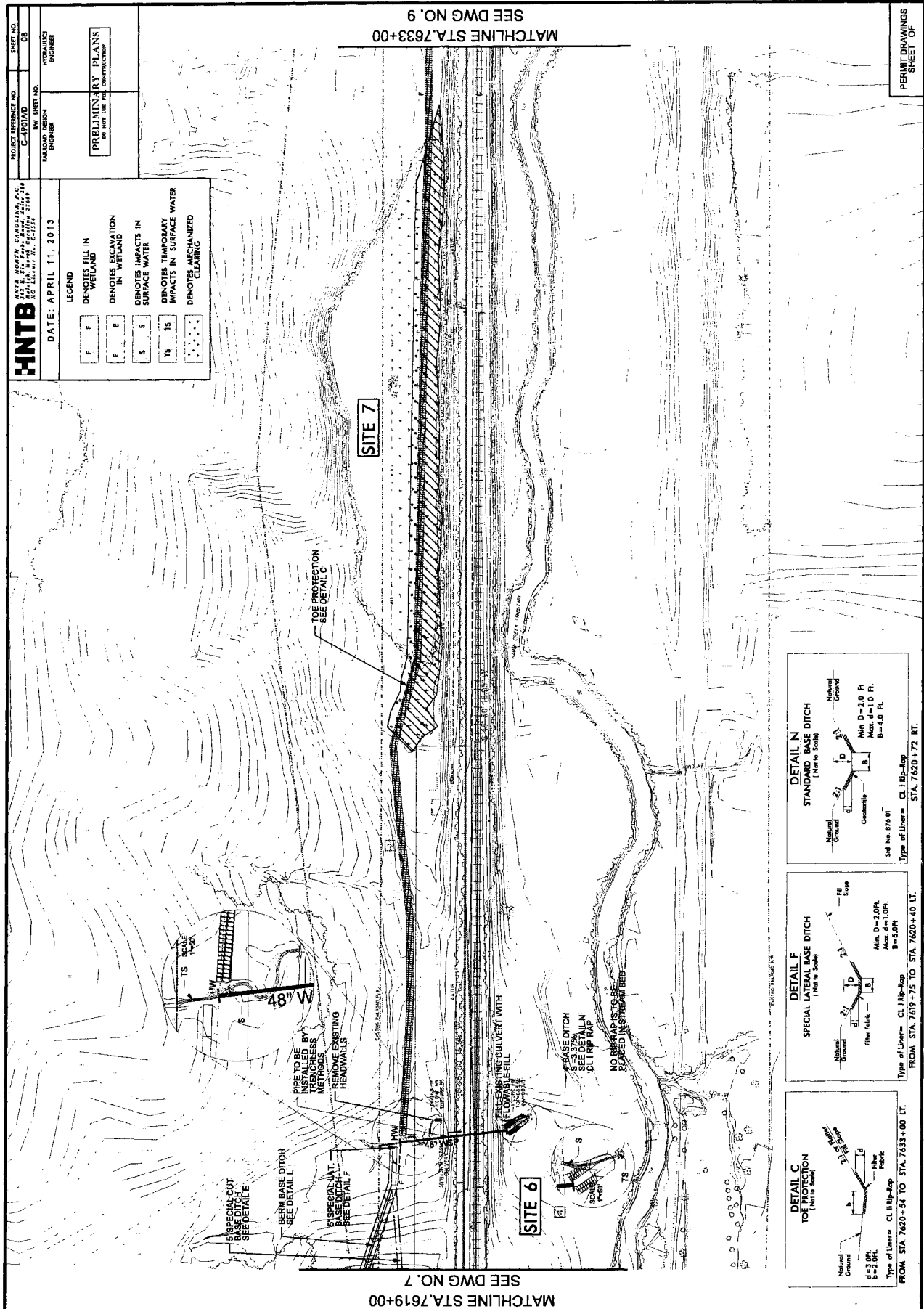
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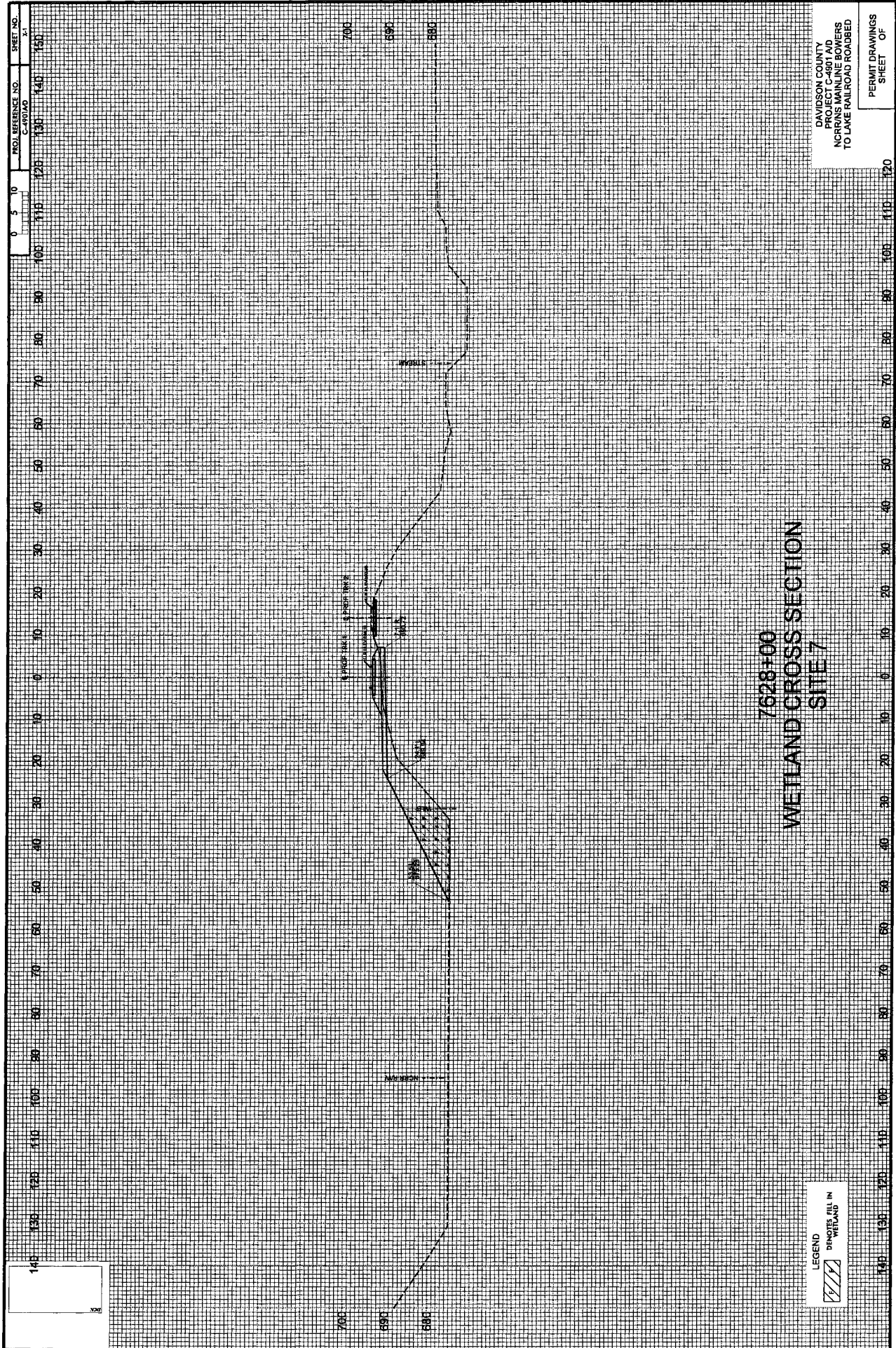


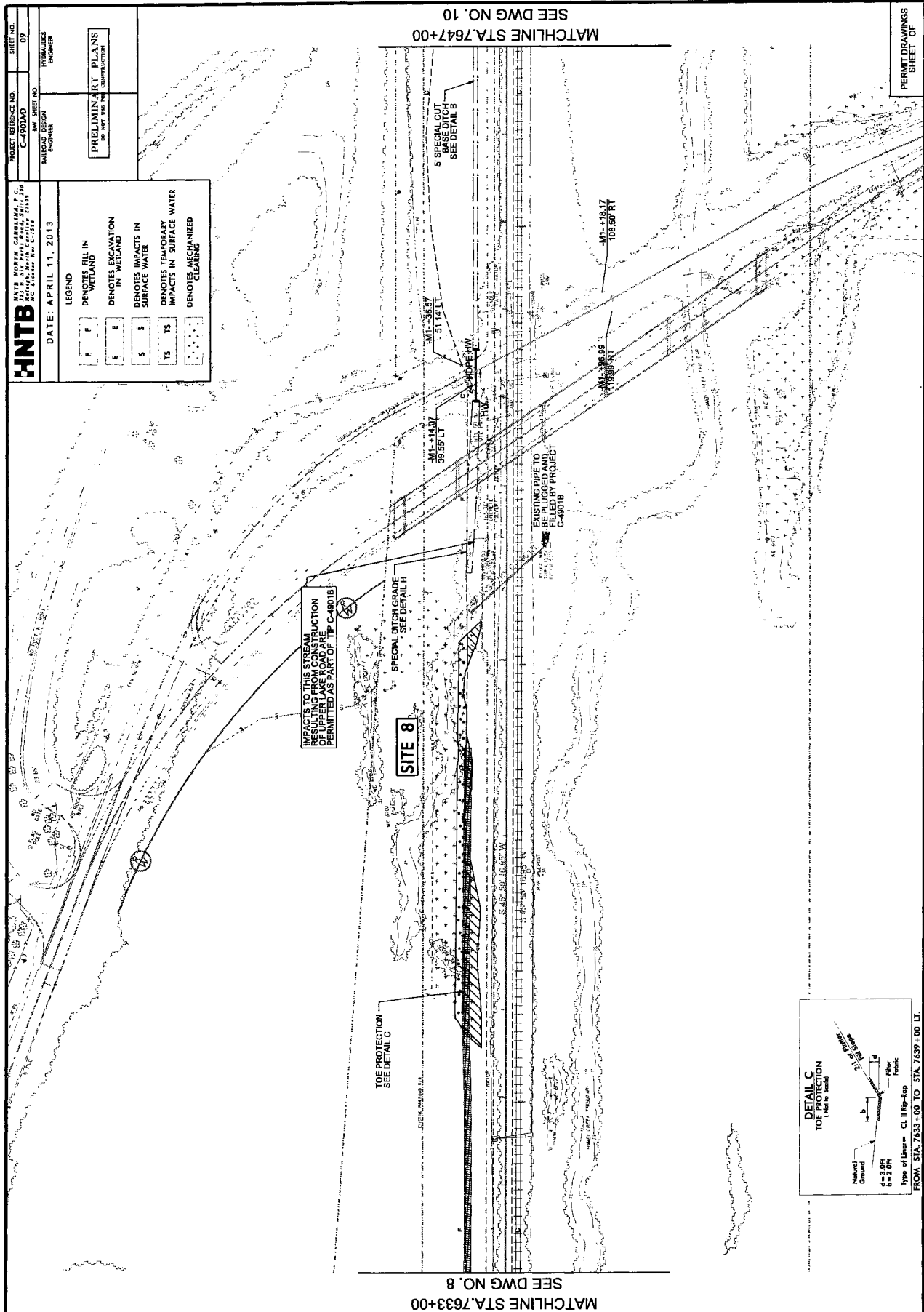


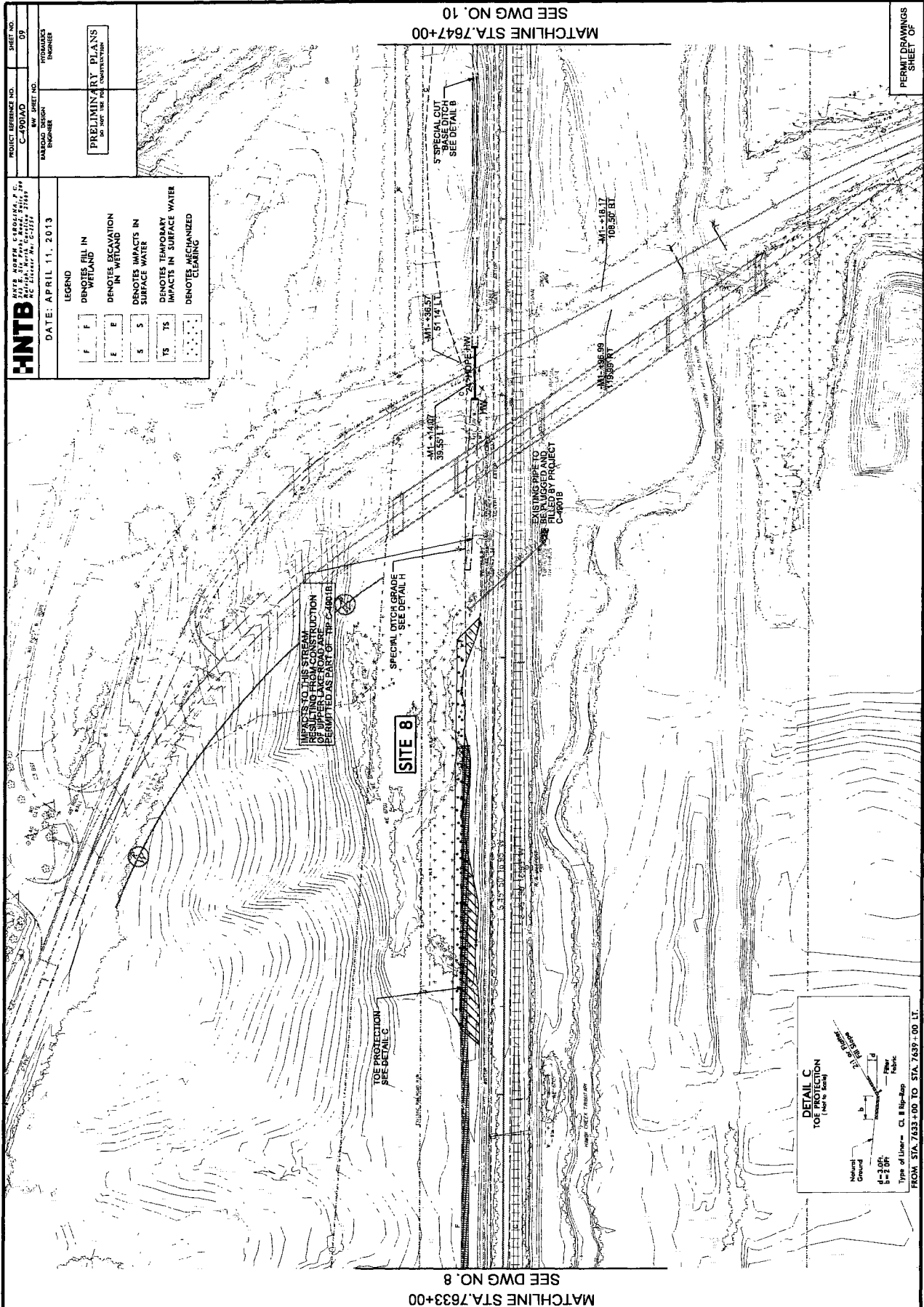


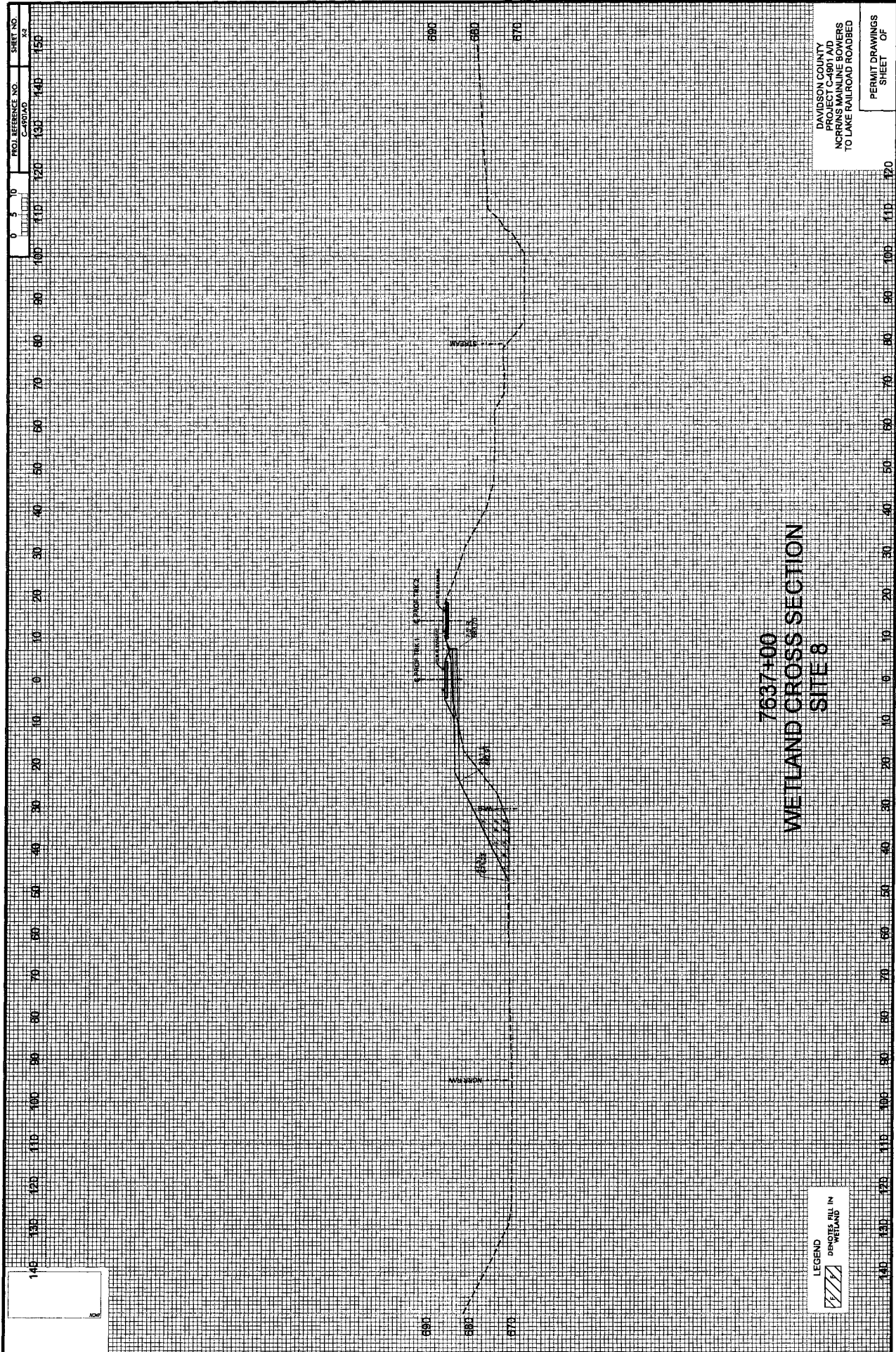




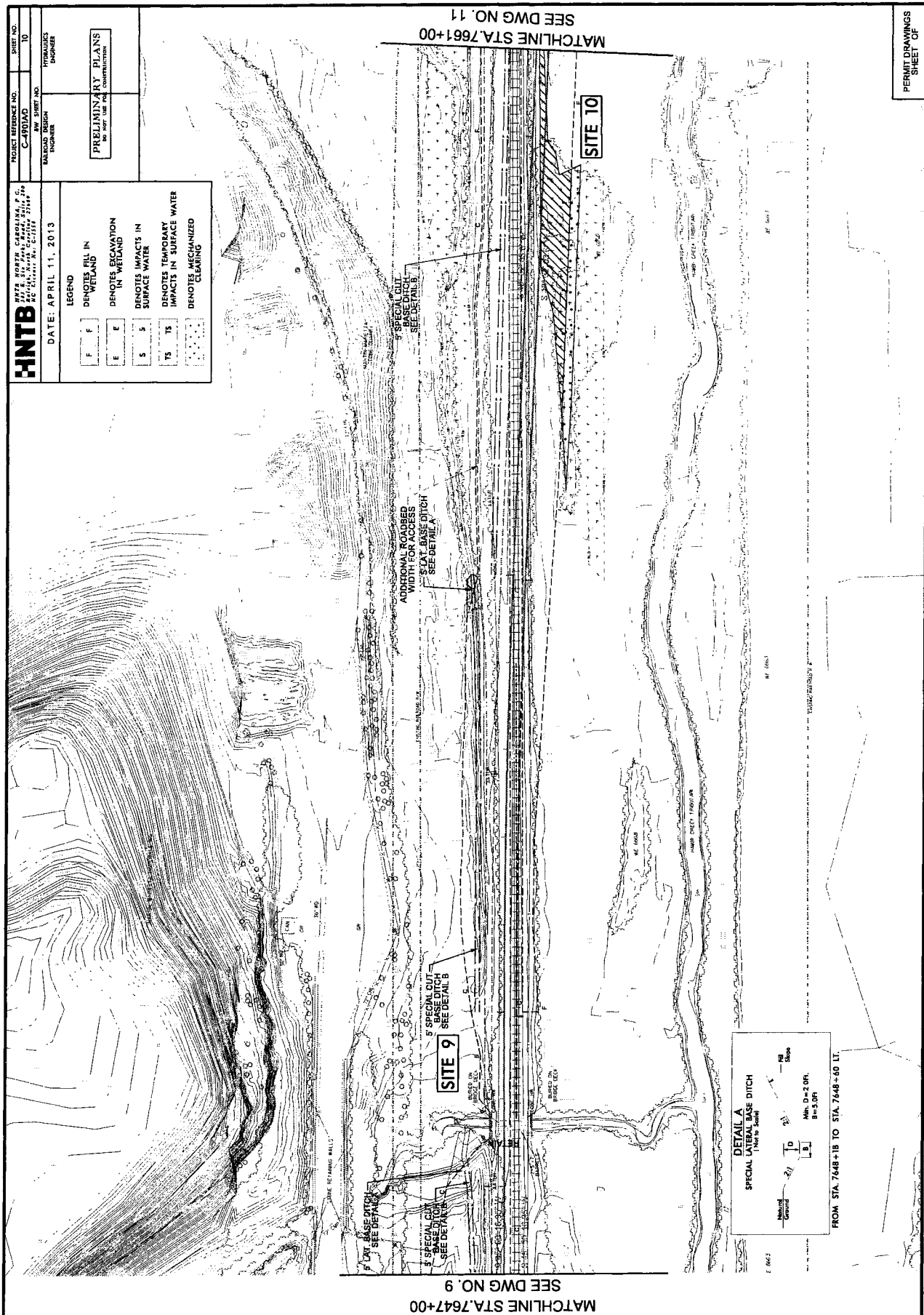


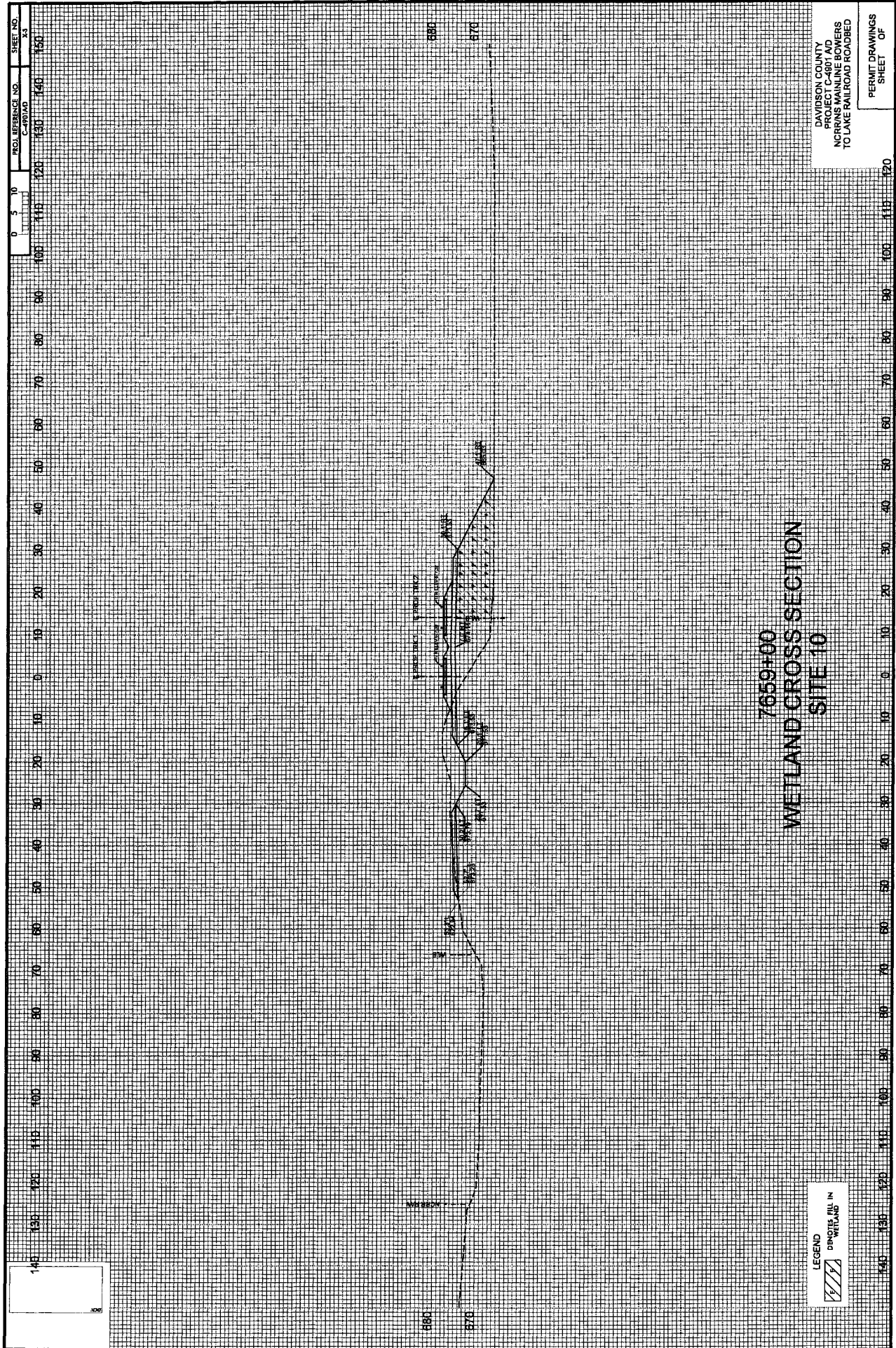


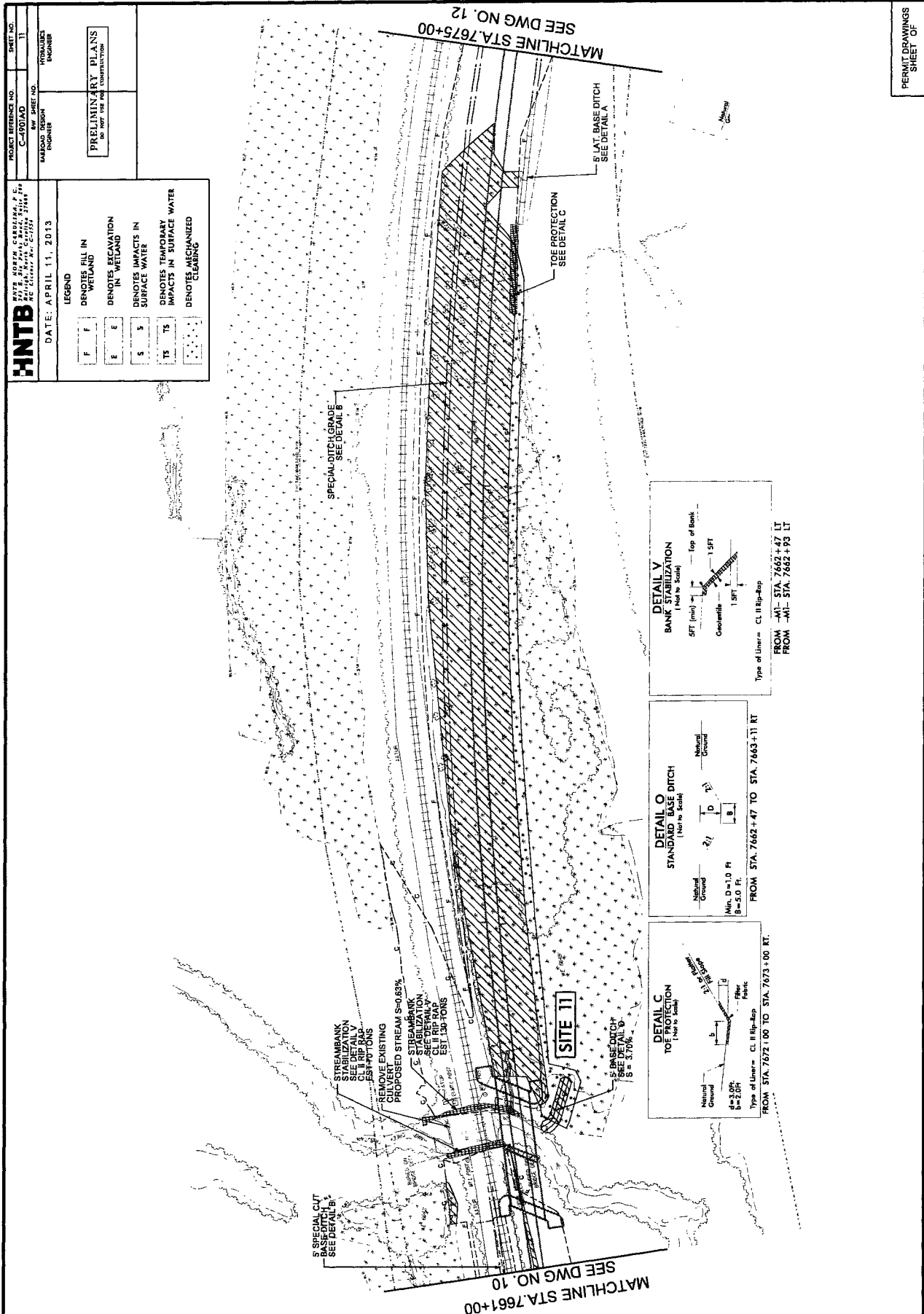


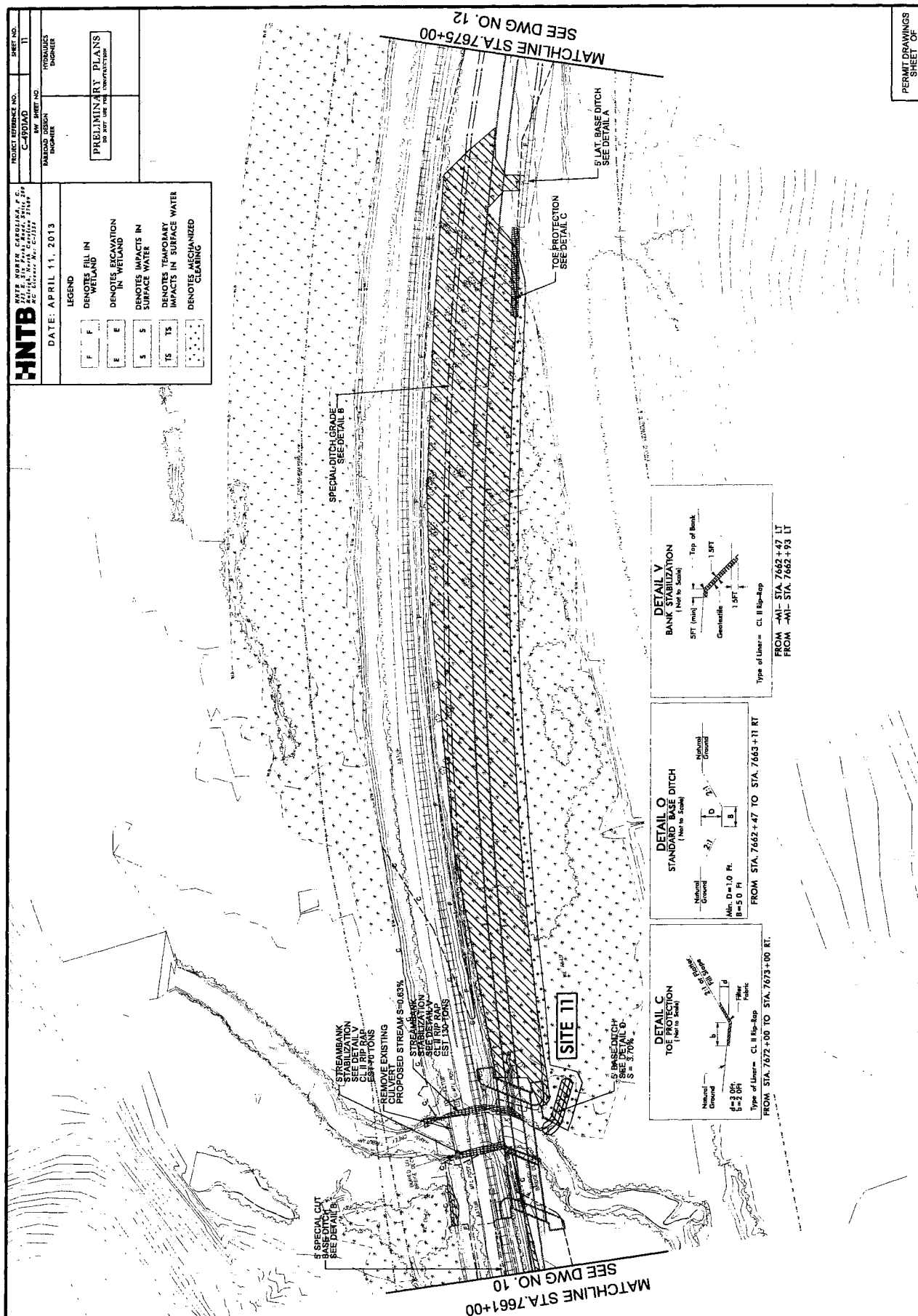


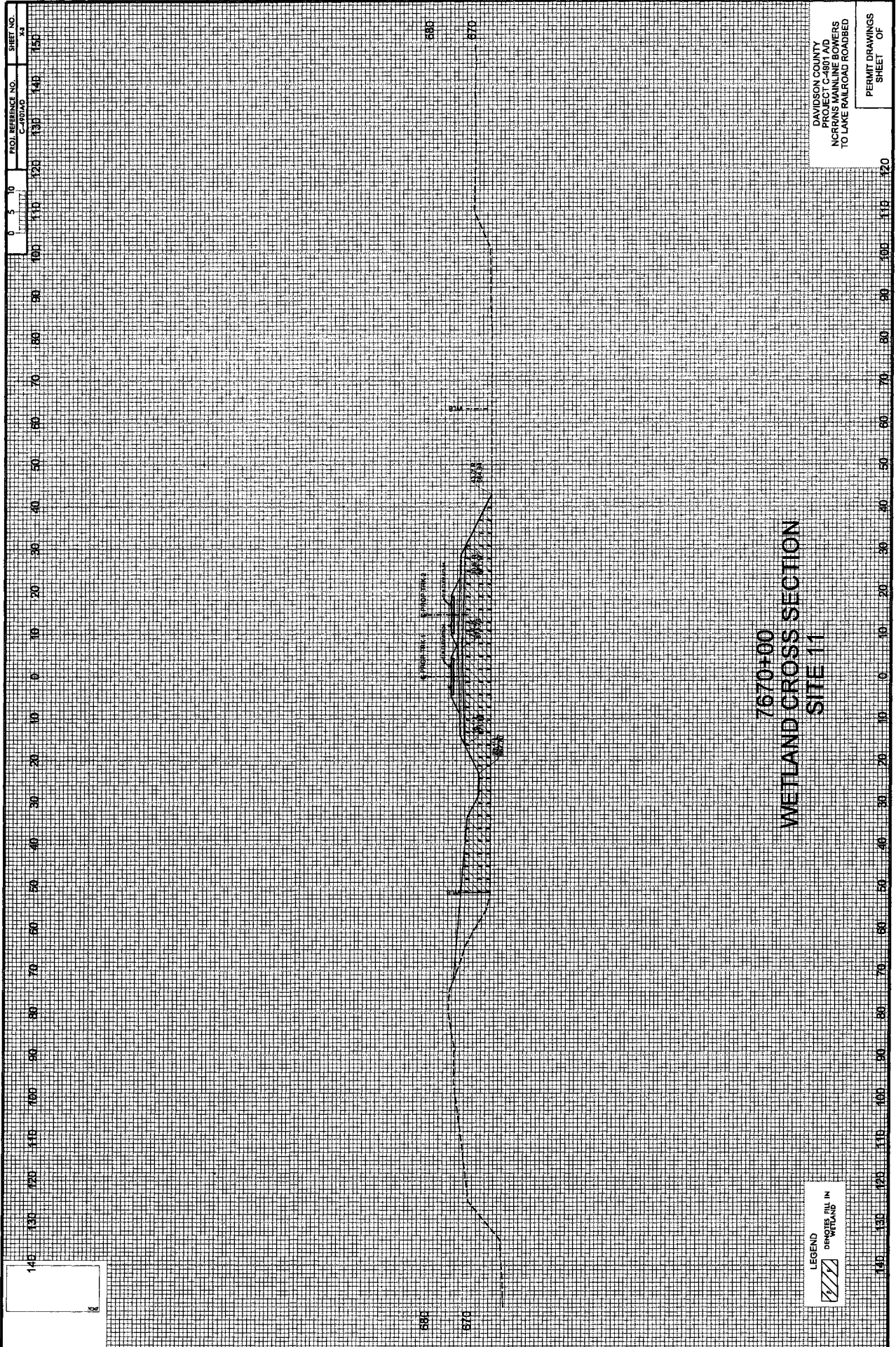
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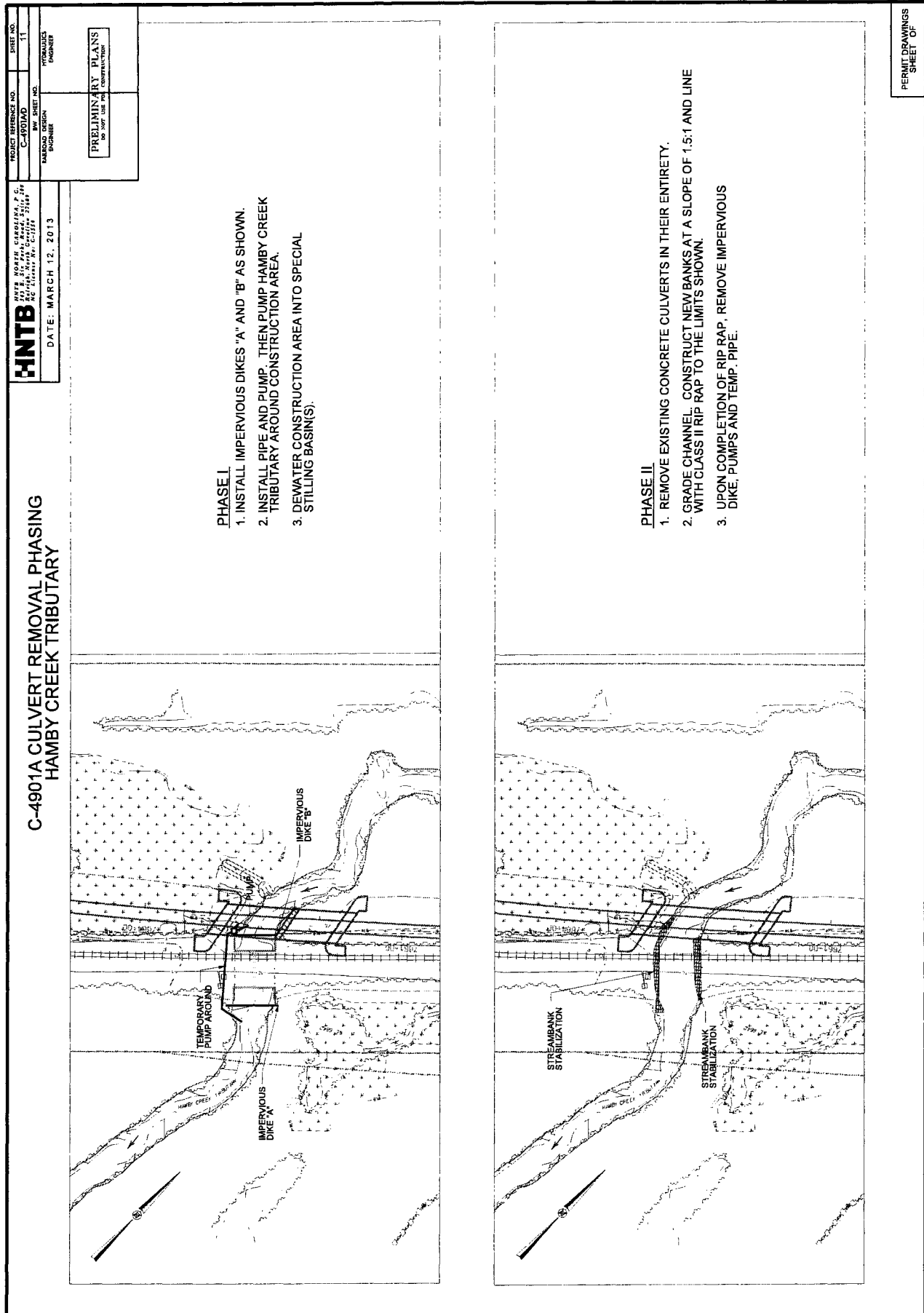


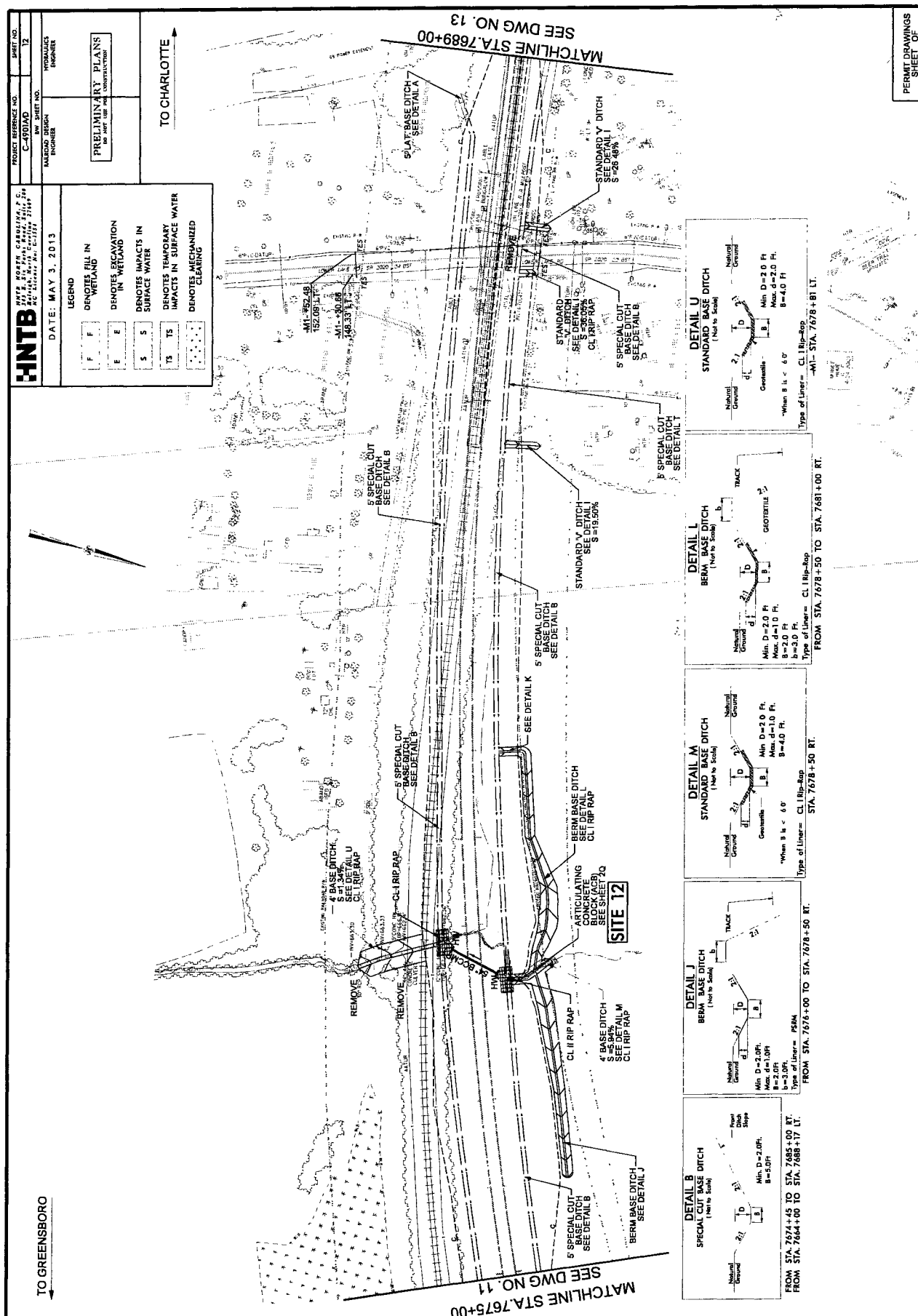


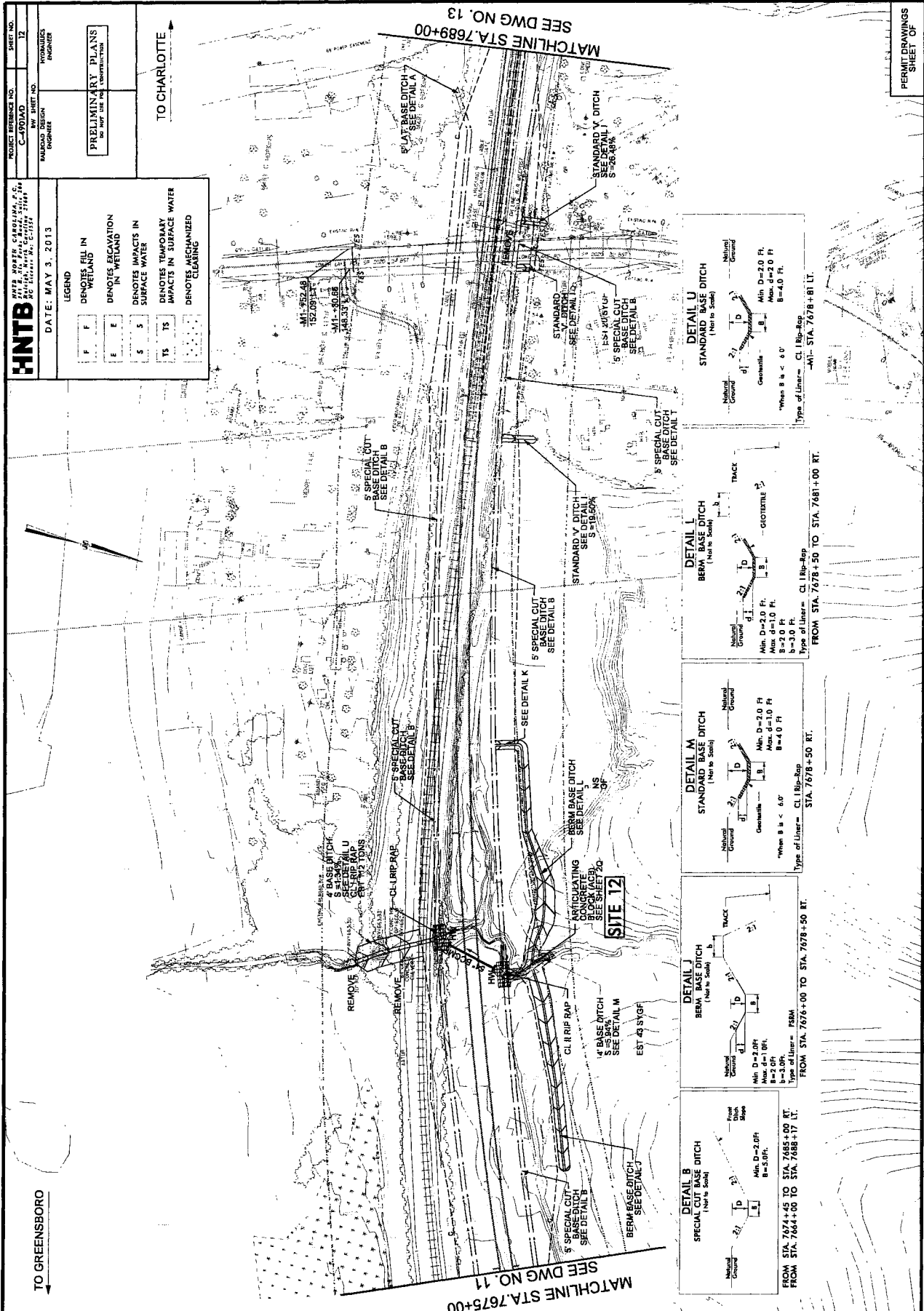


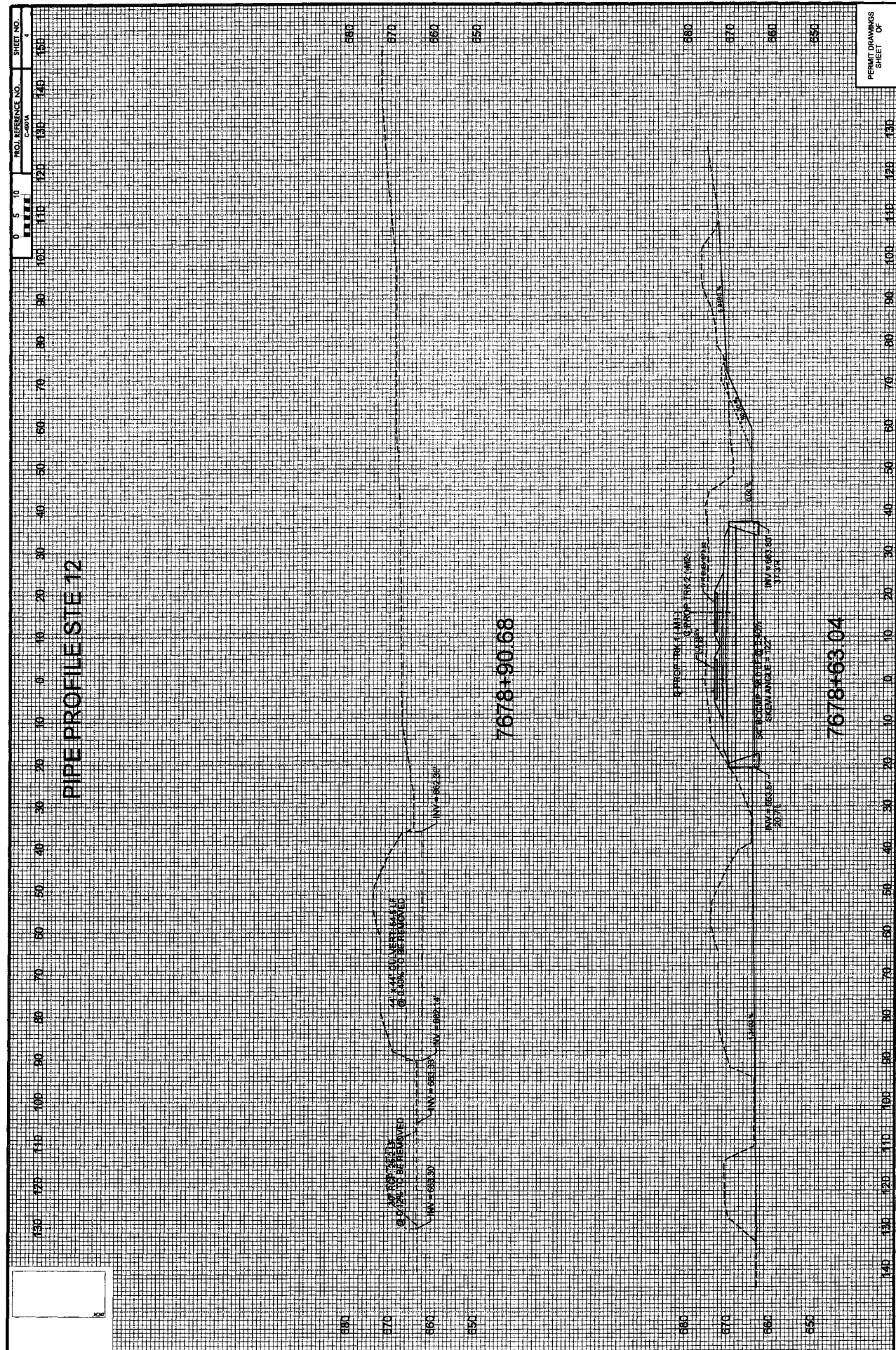


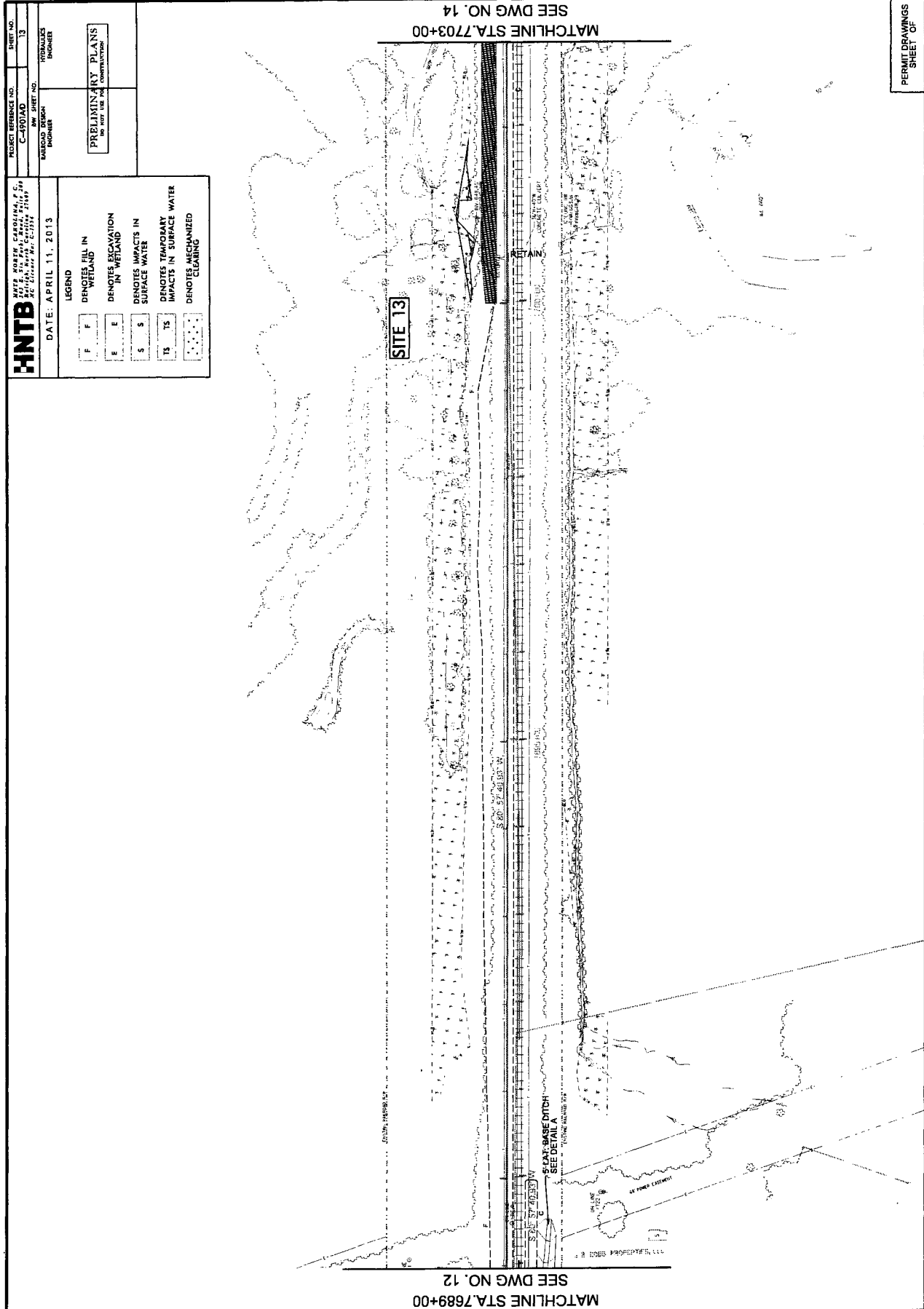


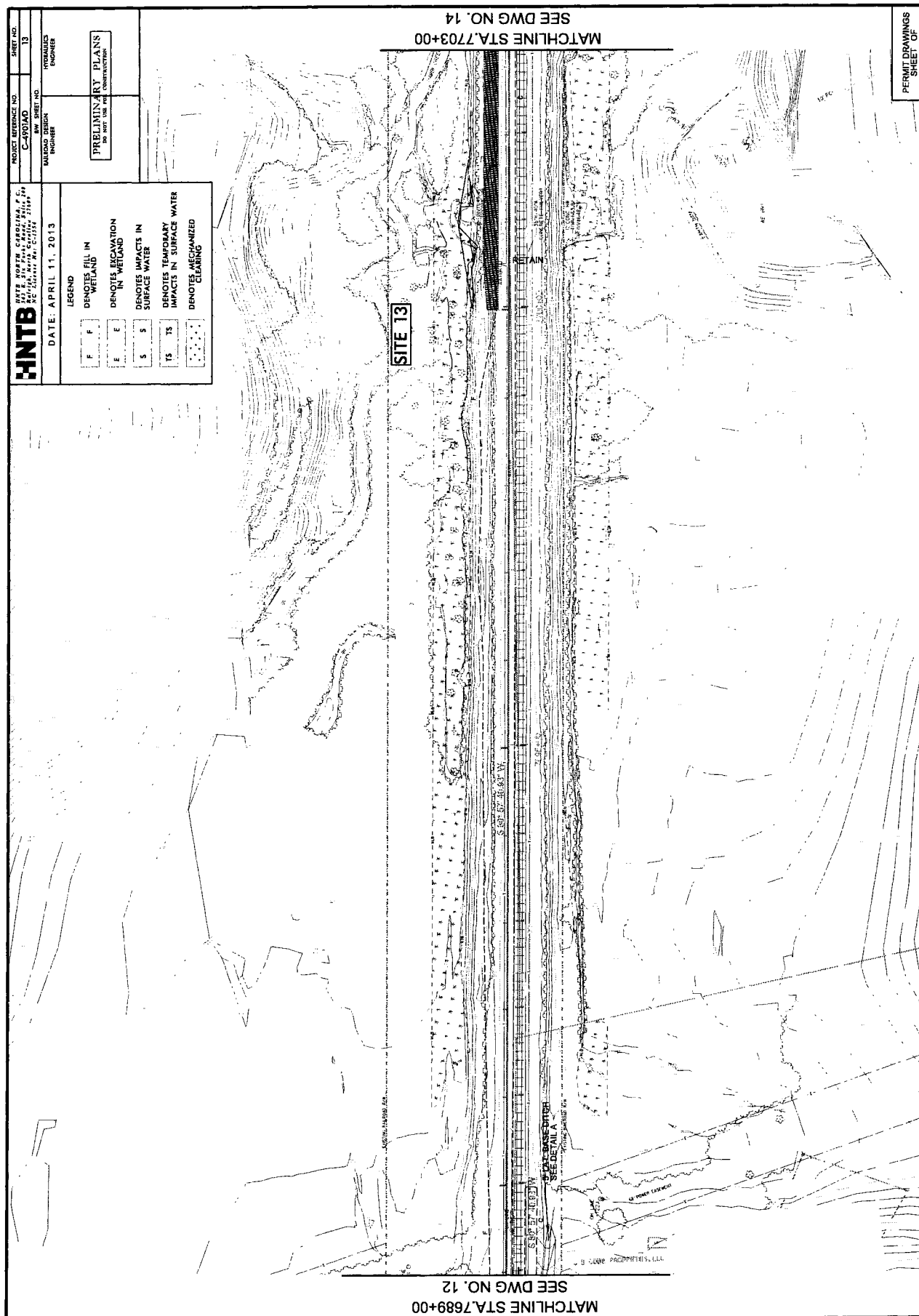


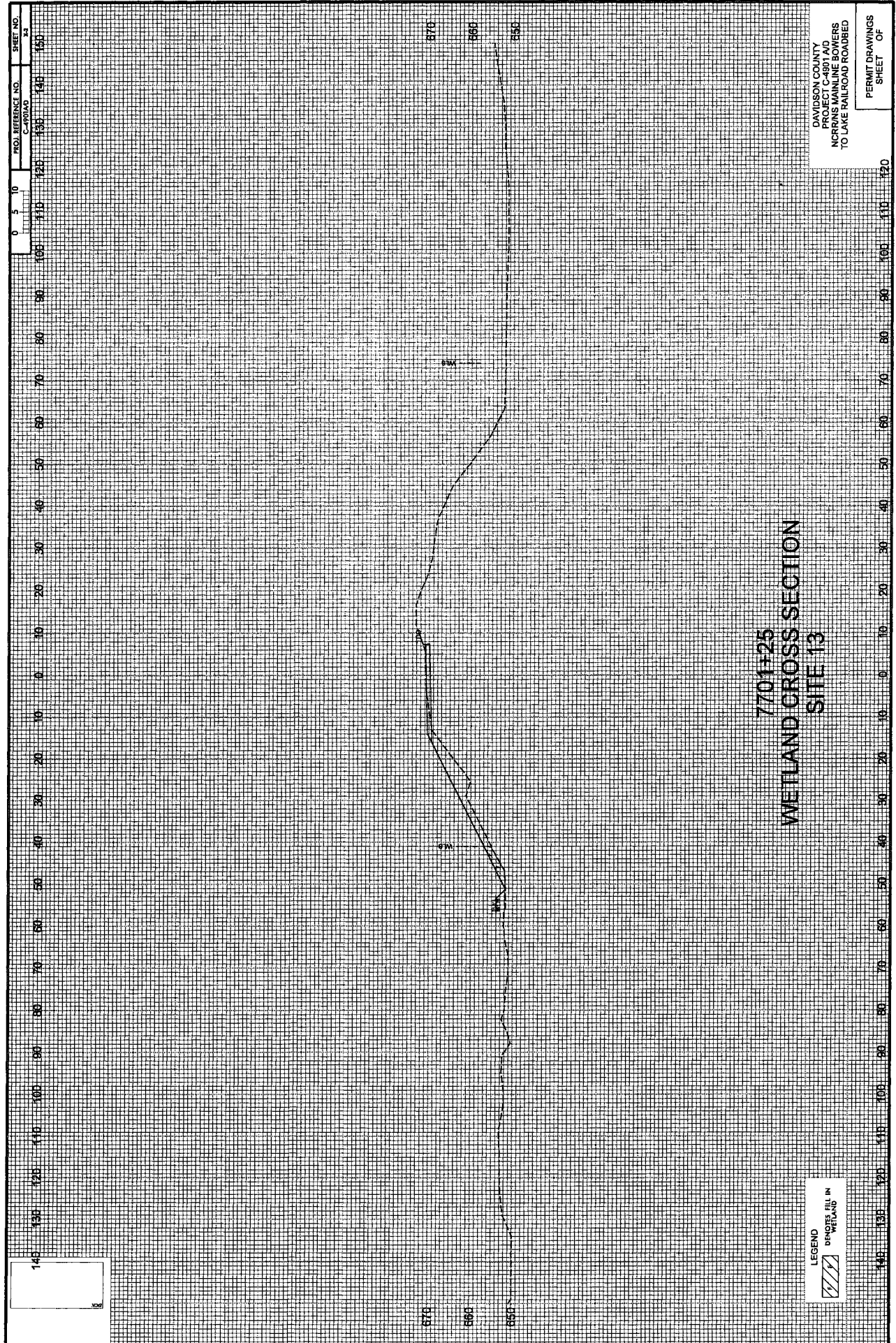


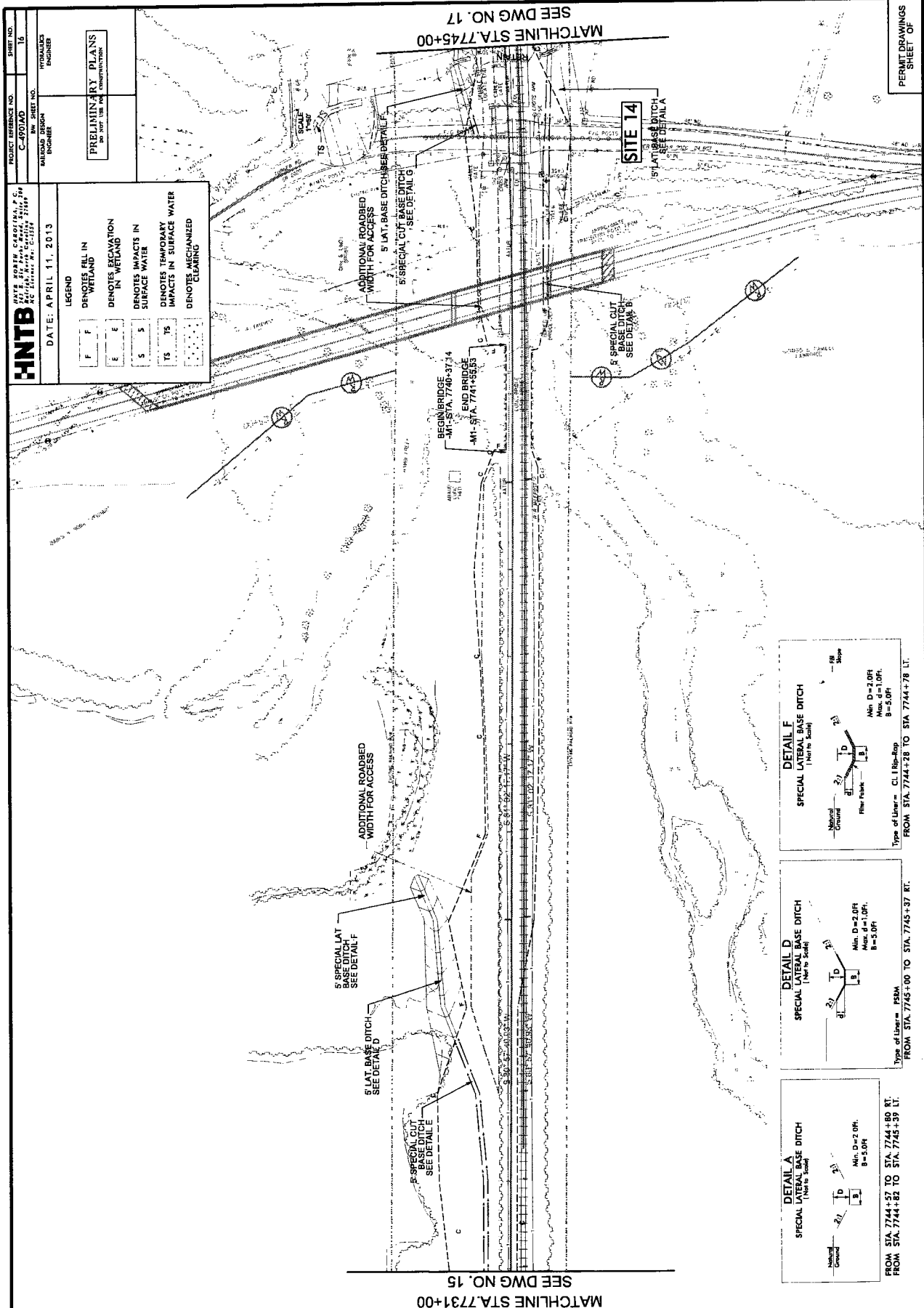


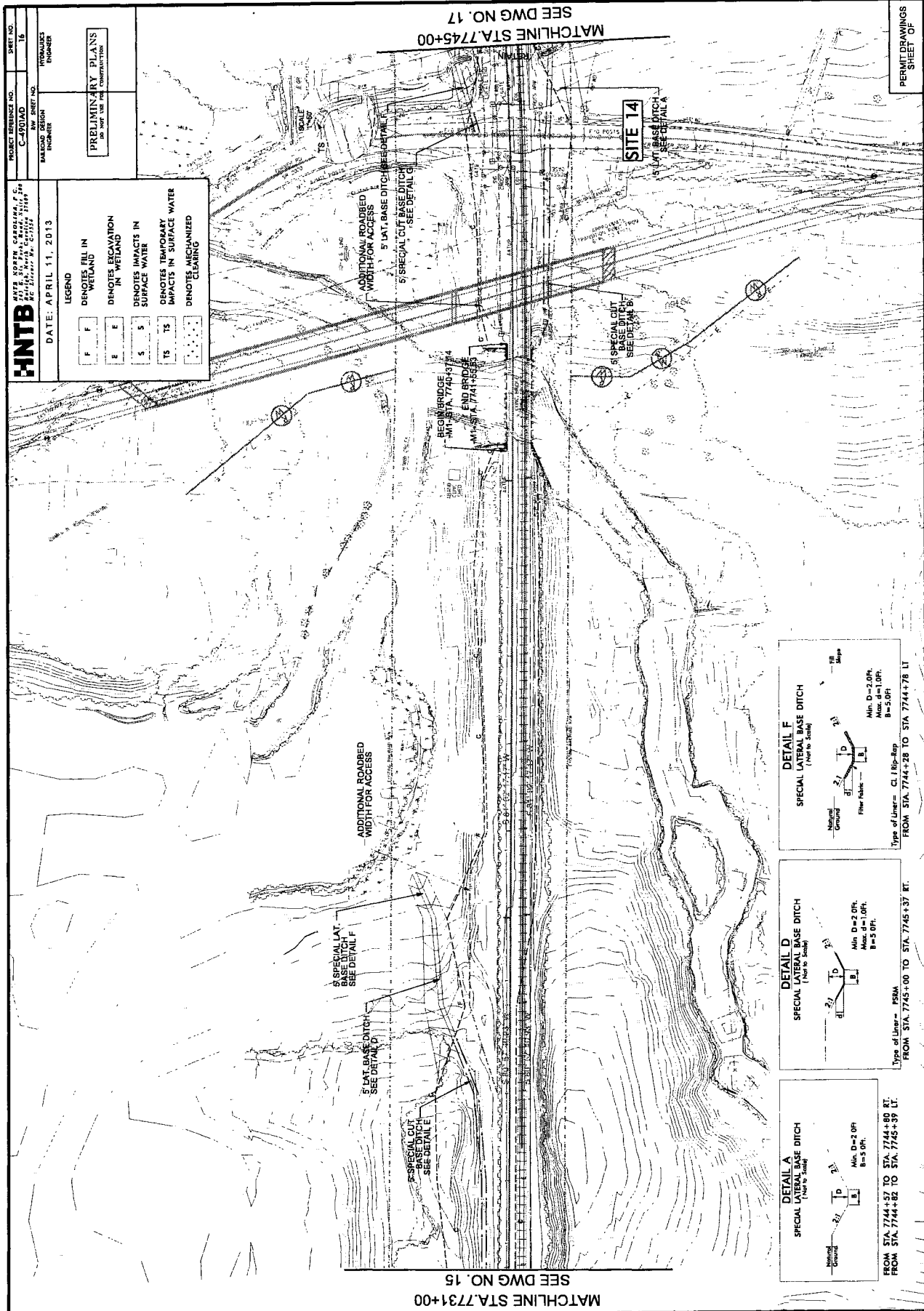


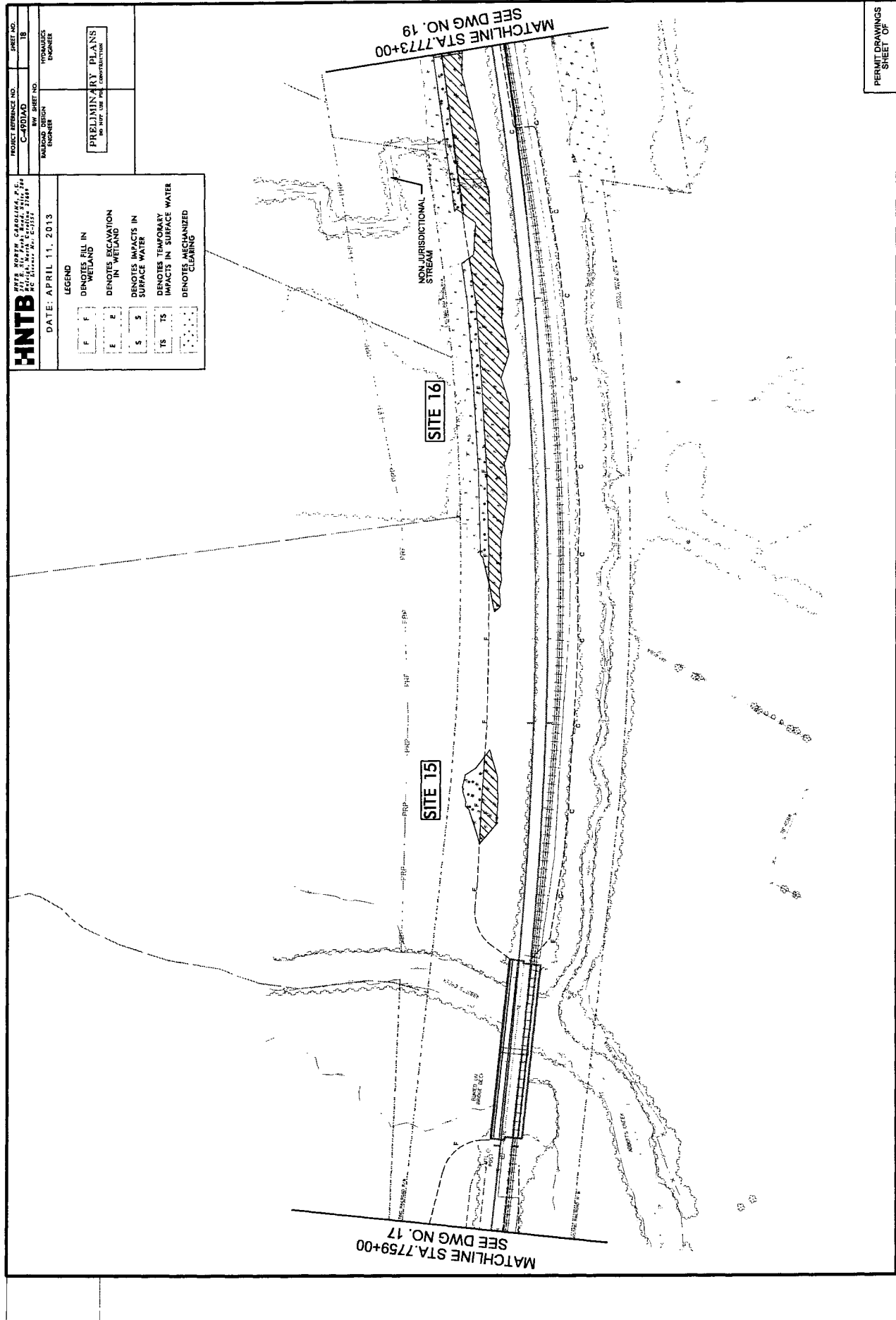


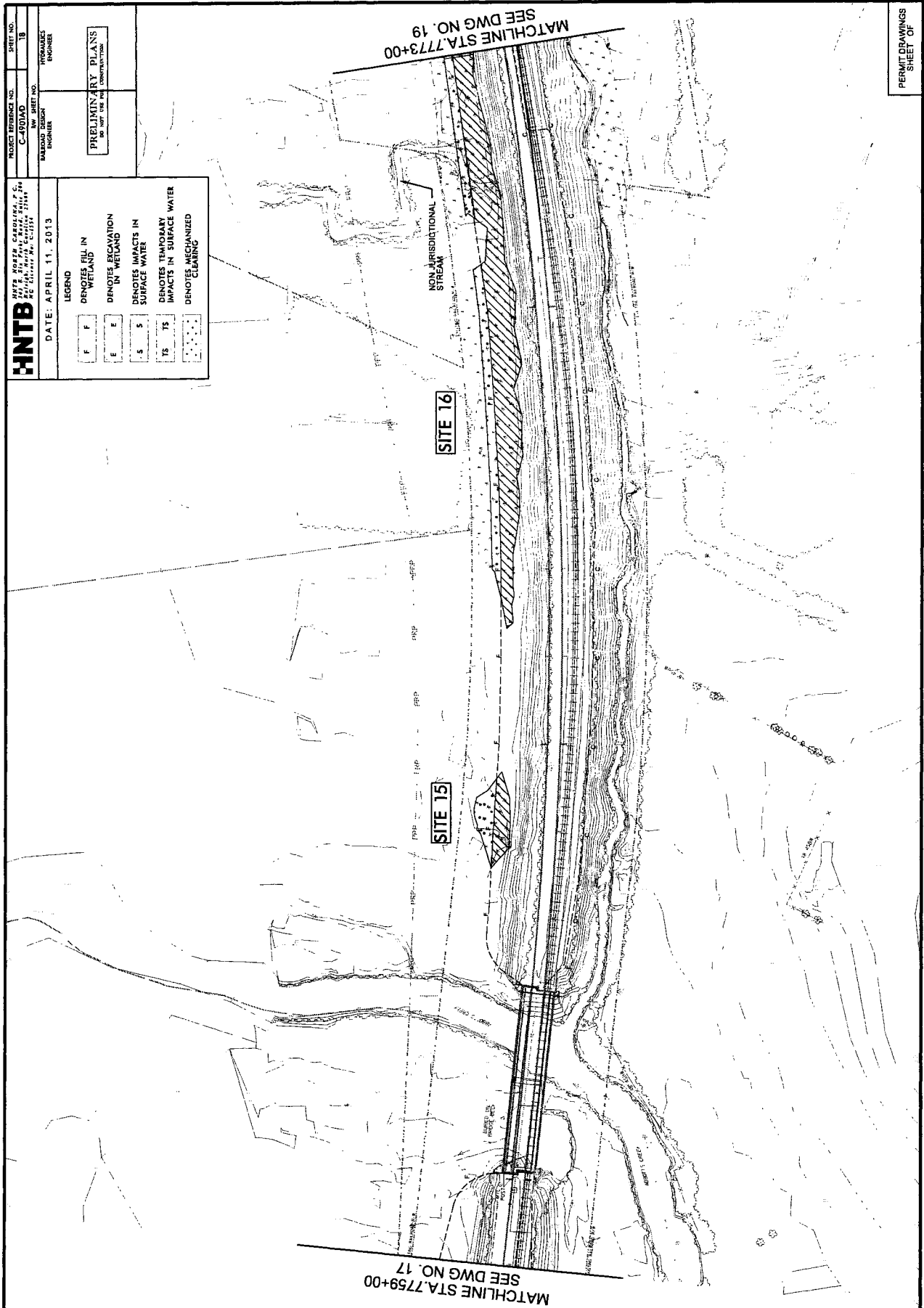


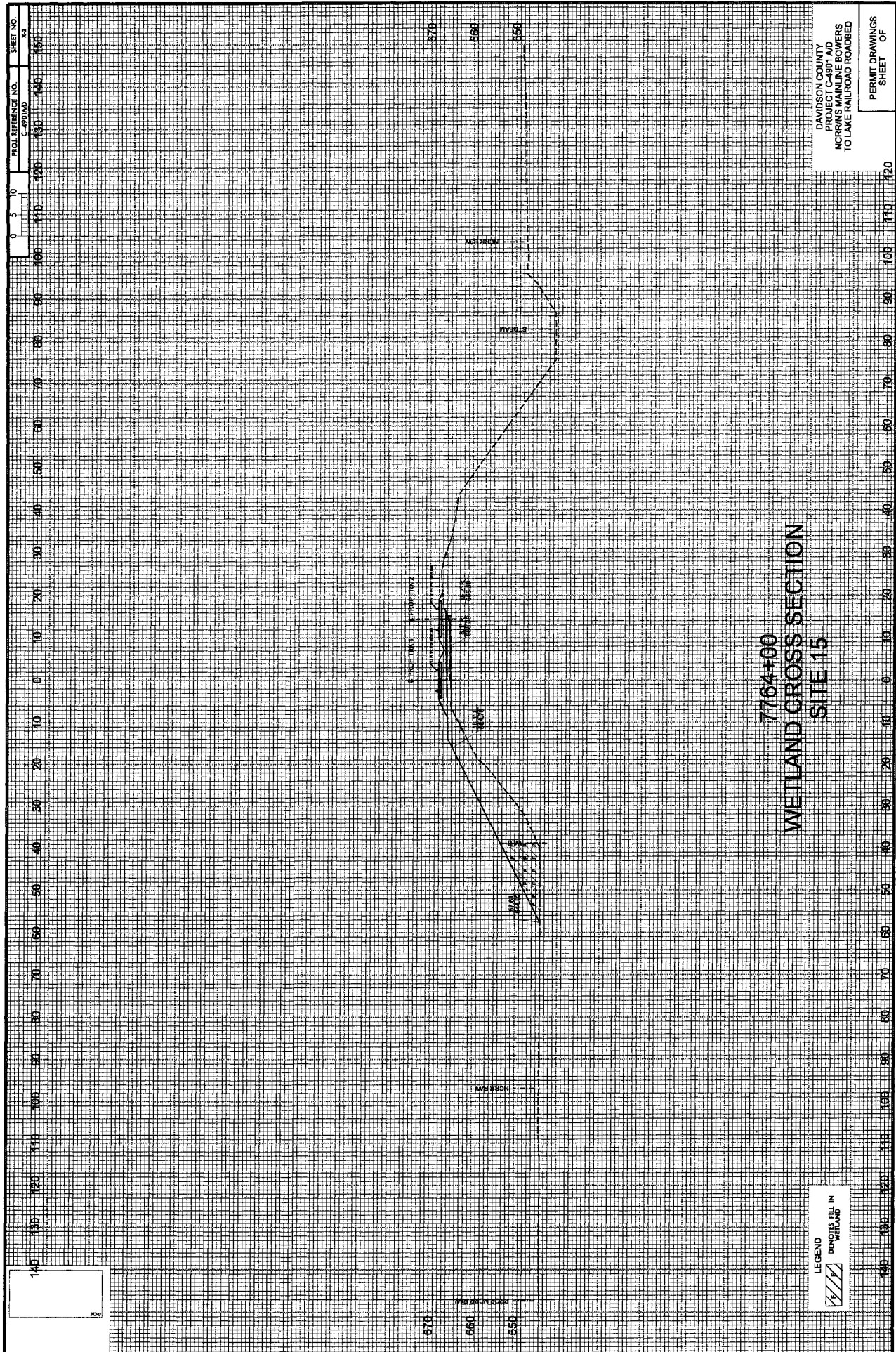


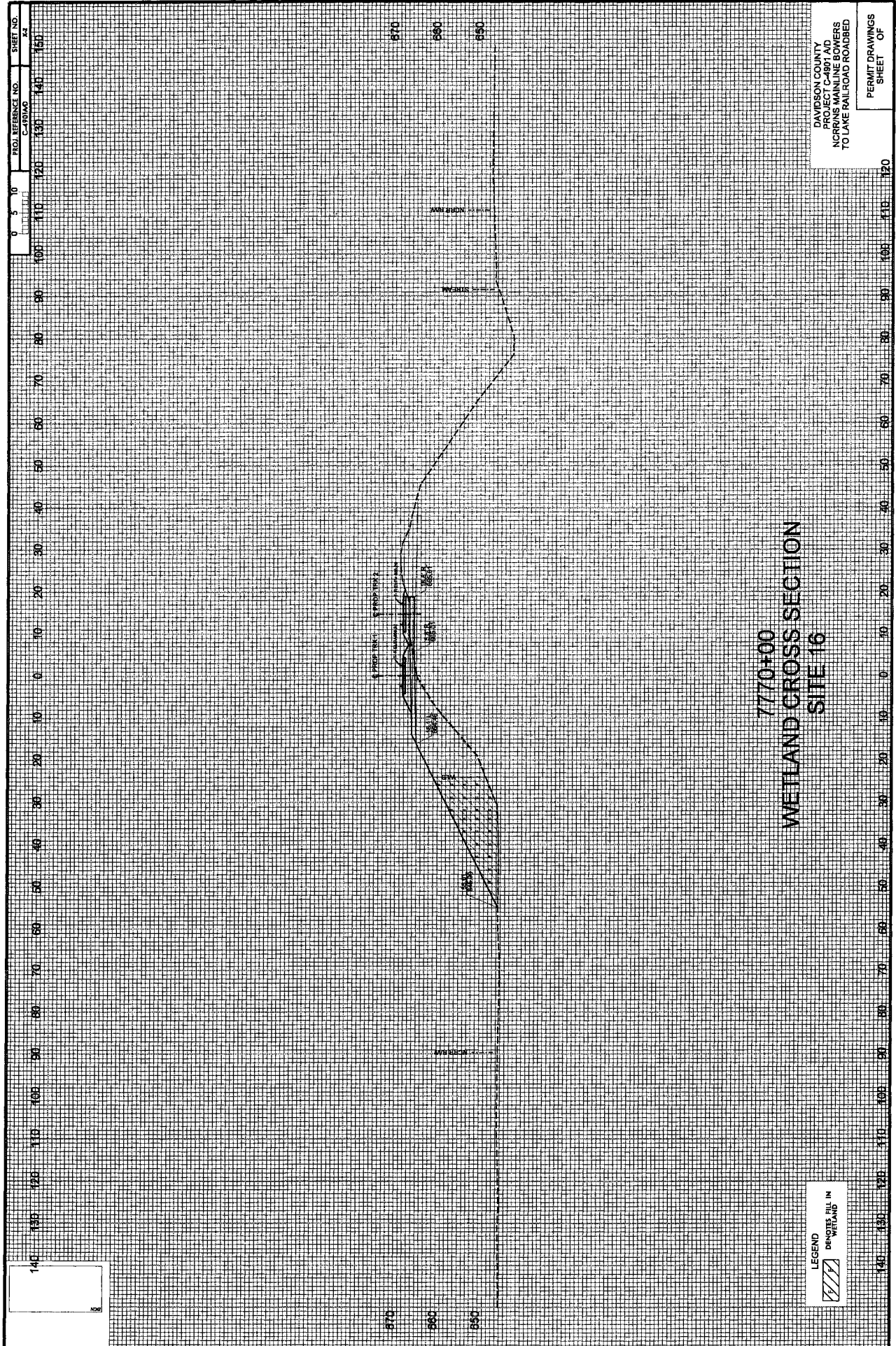




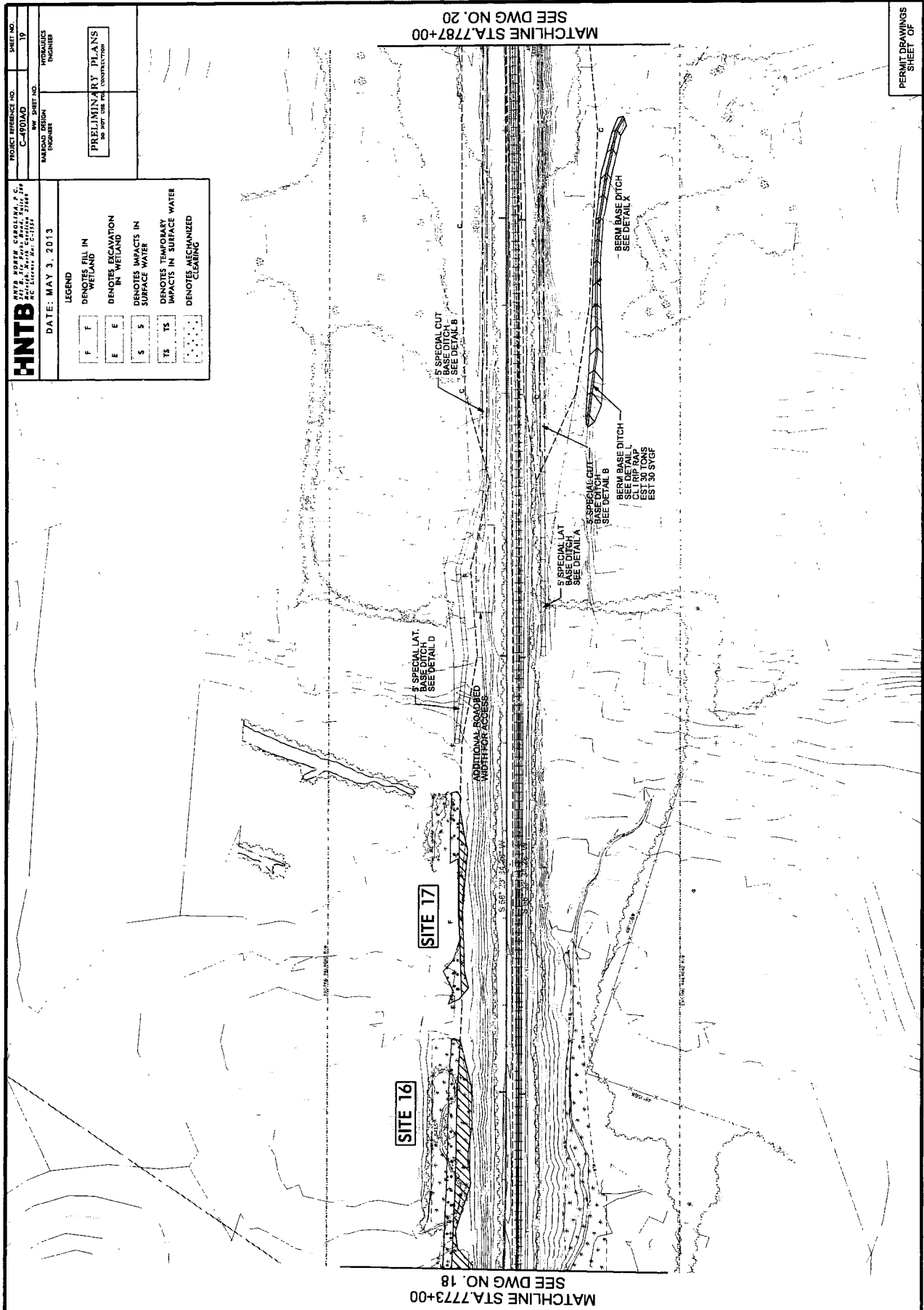


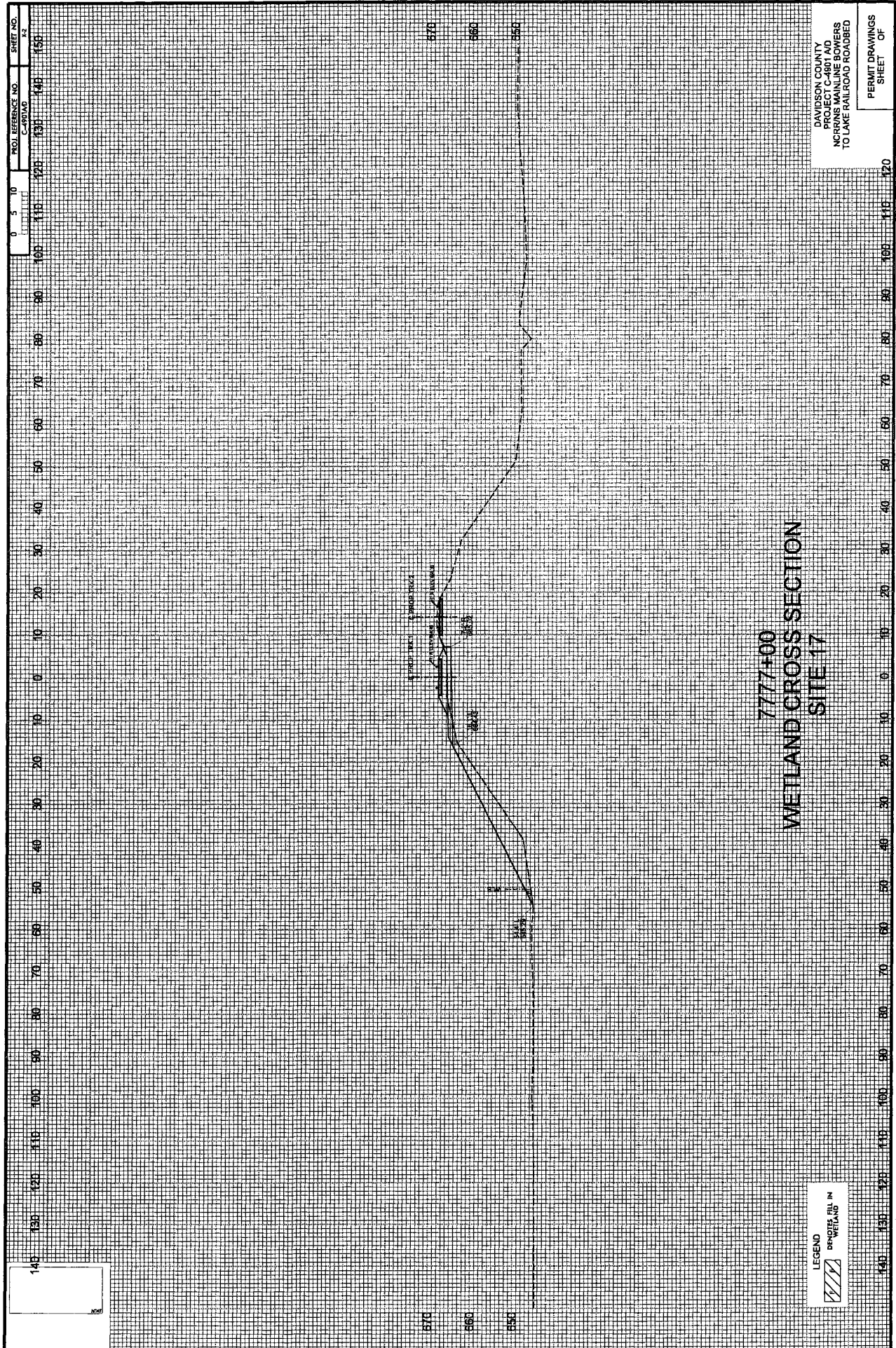


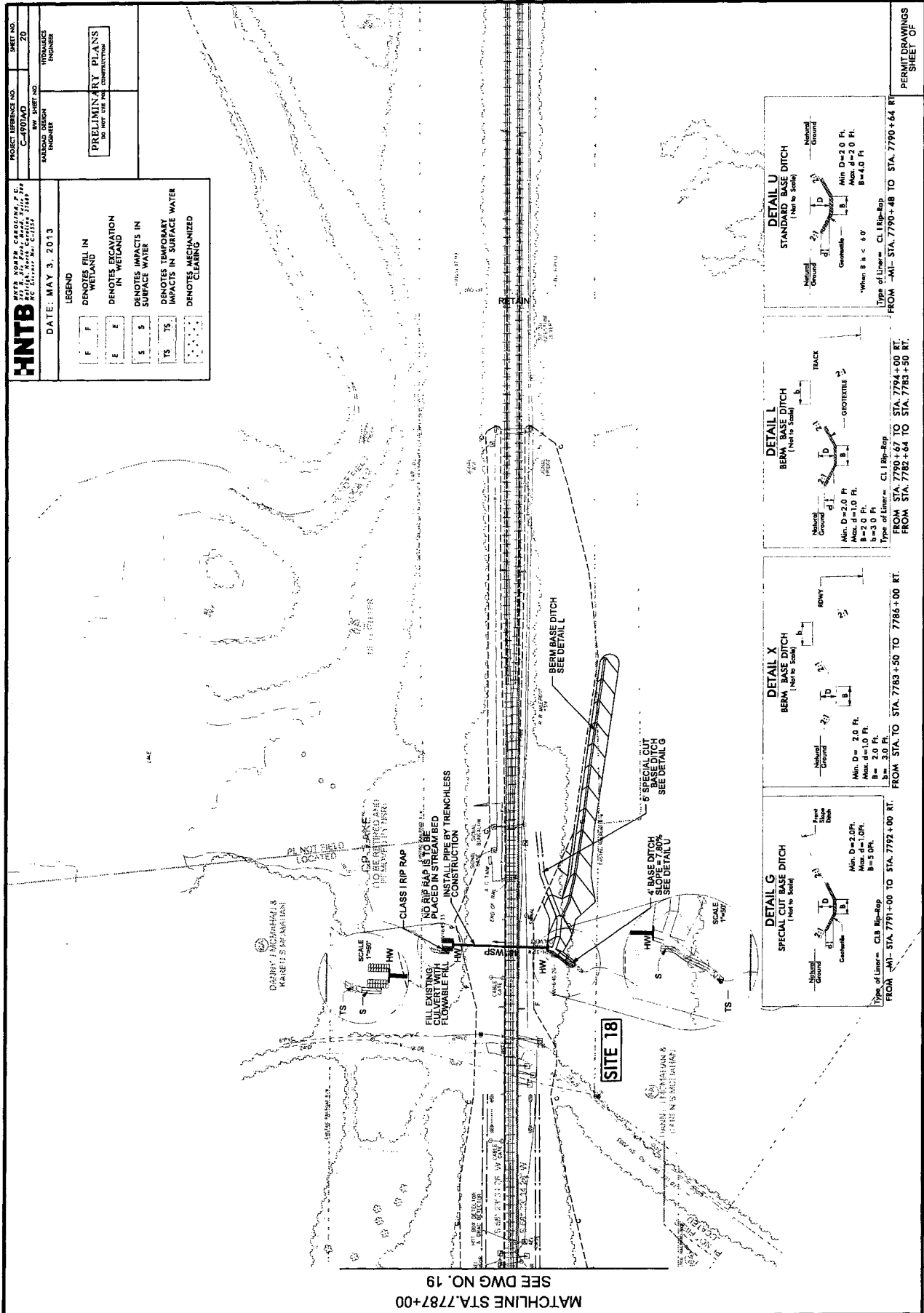


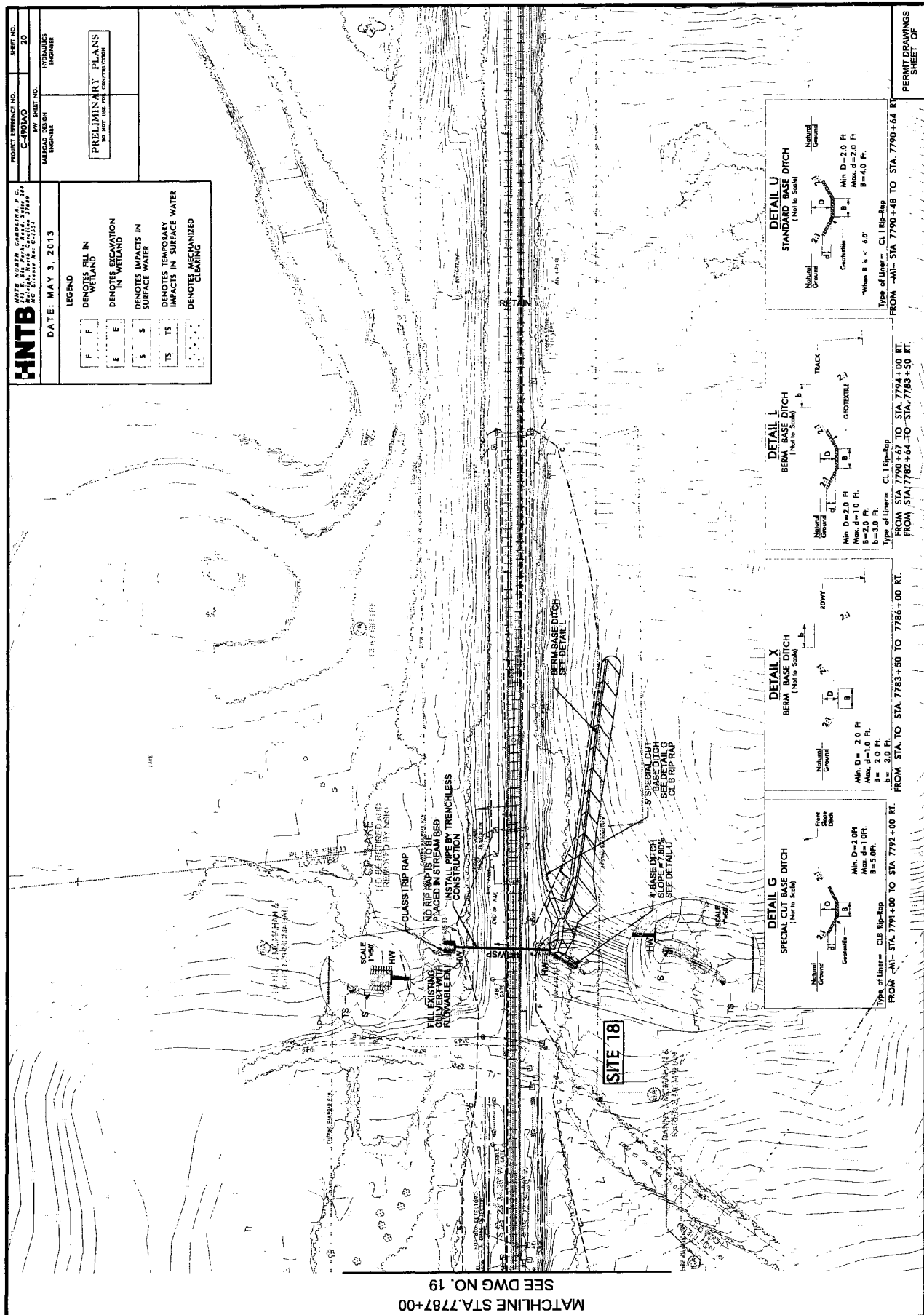


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STANDARD SPECIAL PROVISION
AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS

(5-20-08)

Z-2

General Statute 143C-6-11. (h) Highway Appropriation is hereby incorporated verbatim in this contract as follows:

(h) Amounts Encumbered. – Transportation project appropriations may be encumbered in the amount of allotments made to the Department of Transportation by the Director for the estimated payments for transportation project contract work to be performed in the appropriation fiscal year. The allotments shall be multiyear allotments and shall be based on estimated revenues and shall be subject to the maximum contract authority contained in *General Statute 143C-6-11(c)*. Payment for transportation project work performed pursuant to contract in any fiscal year other than the current fiscal year is subject to appropriations by the General Assembly. Transportation project contracts shall contain a schedule of estimated completion progress, and any acceleration of this progress shall be subject to the approval of the Department of Transportation provided funds are available. The State reserves the right to terminate or suspend any transportation project contract, and any transportation project contract shall be so terminated or suspended if funds will not be available for payment of the work to be performed during that fiscal year pursuant to the contract. In the event of termination of any contract, the contractor shall be given a written notice of termination at least 60 days before completion of scheduled work for which funds are available. In the event of termination, the contractor shall be paid for the work already performed in accordance with the contract specifications.

Payment will be made on any contract terminated pursuant to the special provision in accordance with Subarticle 108-13(E) of the *2012 Standard Specifications*.

STANDARD SPECIAL PROVISION
NCDOT GENERAL SEED SPECIFICATION FOR SEED QUALITY

(5-17-11)

Z-3

Seed shall be sampled and tested by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory. When said samples are collected, the vendor shall supply an independent laboratory report for each lot to be tested. Results from seed so sampled shall be final. Seed not meeting the specifications shall be rejected by the Department of Transportation and shall not be delivered to North Carolina Department of Transportation warehouses. If seed has been delivered it shall be available for pickup and replacement at the supplier's expense.

Any re-labeling required by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory, that would cause the label to reflect as otherwise specified herein shall be rejected by the North Carolina Department of Transportation.

Seed shall be free from seeds of the noxious weeds Johnsongrass, Balloonvine, Jimsonweed, Witchweed, Itchgrass, Serrated Tussock, Showy Crotalaria, Smooth Crotalaria, Sicklepod, Sandbur, Wild Onion, and Wild Garlic. Seed shall not be labeled with the above weed species on the seed analysis label. Tolerances as applied by the Association of Official Seed Analysts will NOT be allowed for the above noxious weeds except for Wild Onion and Wild Garlic.

Tolerances established by the Association of Official Seed Analysts will generally be recognized. However, for the purpose of figuring pure live seed, the found pure seed and found germination percentages as reported by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory will be used. Allowances, as established by the NCDOT, will be recognized for minimum pure live seed as listed on the following pages.

The specifications for restricted noxious weed seed refers to the number per pound as follows:

<u>Restricted Noxious Weed</u>	<u>Limitations per Lb. Of Seed</u>	<u>Restricted Noxious Weed</u>	<u>Limitations per Lb. of Seed</u>
Blessed Thistle	4 seeds	Cornflower (Ragged Robin)	27 seeds
Cocklebur	4 seeds	Texas Panicum	27 seeds
Spurred Anoda	4 seeds	Bracted Plantain	54 seeds
Velvetleaf	4 seeds	Buckhorn Plantain	54 seeds
Morning-glory	8 seeds	Broadleaf Dock	54 seeds
Corn Cockle	10 seeds	Curly Dock	54 seeds
Wild Radish	12 seeds	Dodder	54 seeds
Purple Nutsedge	27 seeds	Giant Foxtail	54 seeds
Yellow Nutsedge	27 seeds	Horsenettle	54 seeds
Canada Thistle	27 seeds	Quackgrass	54 seeds
Field Bindweed	27 seeds	Wild Mustard	54 seeds
Hedge Bindweed	27 seeds		

C203160 (C-4901A)

3

Davidson County

Seed of Pensacola Bahiagrass shall not contain more than 7% inert matter, Kentucky Bluegrass, Centipede and Fine or Hard Fescue shall not contain more than 5% inert matter whereas a maximum of 2% inert matter will be allowed on all other kinds of seed. In addition, all seed shall not contain more than 2% other crop seed nor more than 1% total weed seed. The germination rate as tested by the North Carolina Department of Agriculture shall not fall below 70%, which includes both dormant and hard seed. Seed shall be labeled with not more than 7%, 5% or 2% inert matter (according to above specifications), 2% other crop seed and 1% total weed seed.

Exceptions may be made for minimum pure live seed allowances when cases of seed variety shortages are verified. Pure live seed percentages will be applied in a verified shortage situation. Those purchase orders of deficient seed lots will be credited with the percentage that the seed is deficient.

FURTHER SPECIFICATIONS FOR EACH SEED GROUP ARE GIVEN BELOW:

Minimum 85% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 83% pure live seed will not be approved.

Sericea Lespedeza
Oats (seeds)

Minimum 80% pure live seed; maximum 1% total weed seed; maximum 2% total other crop; maximum 144 restricted noxious weed seed per pound. Seed less than 78% pure live seed will not be approved.

Tall Fescue (all approved varieties)
Kobe Lespedeza
Korean Lespedeza
Weeping Lovegrass
Carpetgrass

Bermudagrass
Browntop Millet
German Millet – Strain R
Clover – Red/White/Crimson

Minimum 78% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 76% pure live seed will not be approved.

Common or Sweet Sundangrass

Minimum 76% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 74% pure live seed will not be approved.

Rye (grain; all varieties)
Kentucky Bluegrass (all approved varieties)
Hard Fescue (all approved varieties)
Shrub (bicolor) Lespedeza

C203160 (C-4901A)

4

Davidson County

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 noxious weed seed per pound. Seed less than 70% pure live seed will not be approved.

Centipedegrass
Crownvetch
Pensacola Bahiagrass
Creeping Red Fescue

Japanese Millet
Reed Canary Grass
Zoysia

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 5% inert matter; maximum 144 restricted noxious weed seed per pound.

Barnyard Grass
Big Bluestem
Little Bluestem
Bristly Locust
Birdsfoot Trefoil
Indiangrass
Orchardgrass
Switchgrass
Yellow Blossom Sweet Clover

STANDARD SPECIAL PROVISION**ERRATA**

(1-17-12) (Rev. 9-18-12)

Z-4

Revise the *2012 Standard Specifications* as follows:

Division 2

Page 2-7, line 31, Article 215-2 Construction Methods, replace “Article 107-26” with “Article 107-25”.

Page 2-17, Article 226-3, Measurement and Payment, line 2, delete “pipe culverts,”.

Page 2-20, Subarticle 230-4(B), Contractor Furnished Sources, change references as follows: **Line 1,** replace “(4) Buffer Zone” with “(c) Buffer Zone”; **Line 12,** replace “(5) Evaluation for Potential Wetlands and Endangered Species” with “(d) Evaluation for Potential Wetlands and Endangered Species”; and **Line 33,** replace “(6) Approval” with “(4) Approval”.

Division 4

Page 4-77, line 27, Subarticle 452-3(C) Concrete Coping, replace “sheet pile” with “reinforcement”.

Division 6

Page 6-7, line 31, Article 609-3 Field Verification of Mixture and Job Mix Formula Adjustments, replace “30” with “45”.

Page 6-10, line 42, Subarticle 609-6(C)(2), replace “Subarticle 609-6(E)” with “Subarticle 609-6(D)”.

Page 6-11, Table 609-1 Control Limits, replace “Max. Spec. Limit” for the Target Source of $P_{0.075}/P_{be}$ Ratio with “1.0”.

Page 6-40, Article 650-2 Materials, replace “Subarticle 1012-1(F)” with “Subarticle 1012-1(E)”

Division 10

Page 10-74, Table 1056-1 Geotextile Requirements, replace “50%” for the UV Stability (Retained Strength) of Type 5 geotextiles with “70%”.

Division 12

Page 12-7, Table 1205-3, add “FOR THERMOPLASTIC” to the end of the title.

Page 12-8, Subarticle 1205-5(B), line 13, replace “Table 1205-2” with “Table 1205-4”.

Page 12-8, Table 1205-4 and 1205-5, replace “THERMOPLASTIC” in the title of these tables with “POLYUREA”.

Page 12-9, Subarticle 1205-6(B), line 21, replace “Table 1205-4” with “Table 1205-6”.

Page 12-11, Subarticle 1205-8(C), line 25, replace “Table 1205-5” with “Table 1205-7”.

Division 15

Page 15-6, Subarticle 1510-3(B), after line 21, replace the allowable leakage formula with the following: $W = LD\sqrt{P} \div 148,000$

Page 15-6, Subarticle 1510-3(B), line 32, delete “may be performed concurrently or” and replace with “shall be performed”.

Page 15-17, Subarticle 1540-3(E), line 27, delete “Type 1”.

Division 17

Page 17-26, line 42, Subarticle 1731-3(D) Termination and Splicing within Interconnect Center, delete this subarticle.

Revise the *2012 Roadway Standard Drawings* as follows:

1633.01 Sheet 1 of 1, English Standard Drawing for Matting Installation, replace “1633.01” with “1631.01”.

STANDARD SPECIAL PROVISION**PLANT AND PEST QUARANTINES****(Imported Fire Ant, Gypsy Moth, Witchweed, And Other Noxious Weeds)**

(3-18-03)

Z-04a

Within Quarantined Area

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

Originating in a Quarantined County

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

Contact

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

Regulated Articles Include

1. Soil, sand, gravel, compost, peat, humus, muck, and decomposed manure, separately or with other articles. This includes movement of articles listed above that may be associated with cut/waste, ditch pulling, and shoulder cutting.
2. Plants with roots including grass sod.
3. Plant crowns and roots.
4. Bulbs, corms, rhizomes, and tubers of ornamental plants.
5. Hay, straw, fodder, and plant litter of any kind.
6. Clearing and grubbing debris.
7. Used agricultural cultivating and harvesting equipment.
8. Used earth-moving equipment.
9. Any other products, articles, or means of conveyance, of any character, if determined by an inspector to present a hazard of spreading imported fire ant, gypsy moth, witchweed or other noxious weeds.

C203160 (C-4901A)

8

Davidson County

STANDARD SPECIAL PROVISION**AWARD OF CONTRACT**

(6-28-77)

Z-6

“The North Carolina Department of Transportation, in accordance with the provisions of *Title VI of the Civil Rights Act of 1964* (78 Stat. 252) and the Regulations of the Department of Transportation (*49 C.F.R., Part 21*), issued pursuant to such act, hereby notifies all bidders that it will affirmatively insure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the ground of race, color, or national origin”.

STANDARD SPECIAL PROVISION**MINORITY AND FEMALE EMPLOYMENT REQUIREMENTS**

Z-7

NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (*EXECUTIVE NUMBER 11246*)

1. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, see as shown on the attached sheet entitled "Employment Goals for Minority and Female participation".

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in *41 CFR Part 60-4* shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in *41 CFR 60-4.3(a)*, and its effort to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project or the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the executive Order and the regulations in *41 CFR Part 60-4*. Compliance with the goals will be measured against the total work hours performed.

2. As used in this Notice and in the contract resulting from this solicitation, the "covered area" is the county or counties shown on the cover sheet of the proposal form and contract.

**EMPLOYMENT GOALS FOR MINORITY
AND FEMALE PARTICIPATION**

Economic Areas

Area 023 29.7%

Bertie County
Camden County
Chowan County
Gates County
Hertford County
Pasquotank County
Perquimans County

Area 024 31.7%

Beaufort County
Carteret County
Craven County
Dare County
Edgecombe County
Green County
Halifax County
Hyde County
Jones County
Lenoir County
Martin County
Nash County
Northampton County
Pamlico County
Pitt County
Tyrrell County
Washington County
Wayne County
Wilson County

Area 025 23.5%

Columbus County
Duplin County
Onslow County
Pender County

Area 026 33.5%

Bladen County
Hoke County
Richmond County
Robeson County
Sampson County
Scotland County

Area 027 24.7%

Chatham County
Franklin County
Granville County
Harnett County
Johnston County
Lee County
Person County
Vance County
Warren County

Area 028 15.5%

Alleghany County
Ashe County
Caswell County
Davie County
Montgomery County
Moore County
Rockingham County
Surry County
Watauga County
Wilkes County

Area 029 15.7%

Alexander County
Anson County
Burke County
Cabarrus County
Caldwell County
Catawba County
Cleveland County
Iredell County
Lincoln County
Polk County
Rowan County
Rutherford County
Stanly County

Area 0480 8.5%

Buncombe County
Madison County

Area 030 6.3%

Avery County
Cherokee County
Clay County
Graham County
Haywood County
Henderson County
Jackson County
McDowell County
Macon County
Mitchell County
Swain County
Transylvania County
Yancey County

C203160 (C-4901A)

11

Davidson County

SMSA Areas**Area 5720 26.6%**

Currituck County

Area 9200 20.7%

Brunswick County

New Hanover County

Area 2560 24.2%

Cumberland County

Area 6640 22.8%

Durham County

Orange County

Wake County

Area 1300 16.2%

Alamance County

Area 3120 16.4%

Davidson County

Forsyth County

Guilford County

Randolph County

Stokes County

Yadkin County

Area 1520 18.3%

Gaston County

Mecklenburg County

Union County

Goals for Female**Participation in Each Trade**

(Statewide) 6.9%

STANDARD SPECIAL PROVISION**REQUIRED CONTRACT PROVISIONS FEDERAL - AID CONSTRUCTION CONTRACTS**

FHWA - 1273 Electronic Version - May 1, 2012

Z-8

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

- A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).
The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.
Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.
Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).
2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.
4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are

incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

- a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.
- b. The contractor will accept as its operating policy the following statement:
"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."
2. **EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.
3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
 - a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
 - b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
 - c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.
 - d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.
 - a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.
 - b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.
 - c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.
5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:
 - a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
 - b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
 - c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
 - d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.
6. **Training and Promotion:**
 - a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.
 - b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).
 - c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
 - d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:
 - a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.
 - b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
 - c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.
 - d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.
8. **Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.
9. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.
 - a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.
 - b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.
10. **Assurance Required by 49 CFR 26.13(b):**
 - a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.
 - b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.
11. **Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.
 - a. The records kept by the contractor shall document the following:
 - (1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;
 - (2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and
 - (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;
 - b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. **Minimum wages**
 - a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the

Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
 - (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 - (ii) The classification is utilized in the area by the construction industry; and
 - (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.
2. **Withholding.** The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.
3. **Payrolls and basic records**
 - a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
 - b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the

payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

- (2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - (i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
 - (ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
 - (iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
 - (3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.
 - (4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.
 - c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.
4. **Apprentices and trainees**

- a. Apprentices (programs of the USDOL). Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- b. Trainees (programs of the USDOL). Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

- In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- c. **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.
 - d. **Apprentices and Trainees (programs of the U.S. DOT).** Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.
 5. **Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.
 6. **Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.
 7. **Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
 8. **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.
 9. **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.
 10. **Certification of eligibility.**
 - a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.
3. **Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.
4. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).
 - a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees

from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

- b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.
4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.
5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.
- d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers to any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).
- f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
- g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.
- h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.
- i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

- a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:
 - (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;
 - (2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - (3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and
 - (4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).
- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.
- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.
- h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

- 1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.
- 2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

- 1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
 - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
 - b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- 2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
- 3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

STANDARD SPECIAL PROVISION**ON-THE-JOB TRAINING**

(10-16-07) (Rev. 5-21-13)

Z-10

Description

The North Carolina Department of Transportation will administer a custom version of the Federal On-the-Job Training (OJT) Program, commonly referred to as the Alternate OJT Program. All contractors (existing and newcomers) will be automatically placed in the Alternate Program. Standard OJT requirements typically associated with individual projects will no longer be applied at the project level. Instead, these requirements will be applicable on an annual basis for each contractor administered by the OJT Program Manager.

On the Job Training shall meet the requirements of 23 CFR 230.107 (b), 23 USC – Section 140, this provision and the On-the-Job Training Program Manual.

The Alternate OJT Program will allow a contractor to train employees on Federal, State and privately funded projects located in North Carolina. However, priority shall be given to training employees on NCDOT Federal-Aid funded projects.

Minorities and Women

Developing, training and upgrading of minorities and women toward journeyman level status is a primary objective of this special training provision. Accordingly, the Contractor shall make every effort to enroll minority and women as trainees to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

Assigning Training Goals

The Department, through the OJT Program Manager, will assign training goals for a calendar year based on the contractors' past three years' activity and the contractors' anticipated upcoming year's activity with the Department. At the beginning of each year, all contractors eligible will be contacted by the Department to determine the number of trainees that will be assigned for the upcoming calendar year. At that time the Contractor shall enter into an agreement with the Department to provide a self-imposed on-the-job training program for the calendar year. This agreement will include a specific number of annual training goals agreed to by both parties. The number of training assignments may range from 1 to 15 per contractor per calendar year. The Contractor shall sign an agreement to fulfill their annual goal for the year. A sample agreement is available at www.ncbowd.com/section/on-the-job-training.

Training Classifications

The Contractor shall provide on-the-job training aimed at developing full journeyman level workers in the construction craft/operator positions. Preference shall be given to providing training in the following skilled work classifications:

Equipment Operators	Office Engineers
Truck Drivers	Estimators
Carpenters	Iron / Reinforcing Steel Workers
Concrete Finishers	Mechanics
Pipe Layers	Welders

The Department has established common training classifications and their respective training requirements that may be used by the contractors. However, the classifications established are not all-inclusive. Where the training is oriented toward construction applications, training will be allowed in lower-level management positions such as office engineers and estimators. Contractors shall submit new classifications for specific job functions that their employees are performing. The Department will review and recommend for acceptance to FHWA the new classifications proposed by contractors, if applicable. New classifications shall meet the following requirements:

Proposed training classifications are reasonable and realistic based on the job skill classification needs, and

The number of training hours specified in the training classification is consistent with common practices and provides enough time for the trainee to obtain journeyman level status.

The Contractor may allow trainees to be trained by a subcontractor provided that the Contractor retains primary responsibility for meeting the training and this provision is made applicable to the subcontract. However, only the Contractor will receive credit towards the annual goal for the trainee.

Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journeyman level status or in which they have been employed as a journeyman.

Records and Reports

The Contractor shall maintain enrollment, monthly and completion reports documenting company compliance under these contract documents. These documents and any other information as requested shall be submitted to the OJT Program Manager.

Upon completion and graduation of the program, the Contractor shall provide each trainee with a certification Certificate showing the type and length of training satisfactorily completed.

Trainee Interviews

All trainees enrolled in the program will receive an initial and Trainee/Post graduate interview conducted by the OJT program staff.

Trainee Wages

Contractors shall compensate trainees on a graduating pay scale based upon a percentage of the prevailing minimum journeyman wages (Davis-Bacon Act). Minimum pay shall be as follows:

60 percent	of the journeyman wage for the first half of the training period
75 percent	of the journeyman wage for the third quarter of the training period
90 percent	of the journeyman wage for the last quarter of the training period

In no instance shall a trainee be paid less than the local minimum wage. The Contractor shall adhere to the minimum hourly wage rate that will satisfy both the NC Department of Labor (NCDOL) and the Department.

Achieving or Failing to Meet Training Goals

The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and who receives training for at least 50 percent of the specific program requirement. Trainees will be allowed to be transferred between projects if required by the Contractor's scheduled workload to meet training goals.

If a contractor fails to attain their training assignments for the calendar year, they may be taken off the NCDOT's Bidders List.

Measurement and Payment

No compensation will be made for providing required training in accordance with these contract documents.

C203160 (C-4901A)

24

Davidson County

STANDARD SPECIAL PROVISION
MINIMUM WAGES
GENERAL DECISION NC130096 01/04/2013 NC96

Z-96

Date: January 4, 2013

General Decision Number: NC130096 01/04/13 NC96

Superseded General Decision Numbers: NC20120096

State: North Carolina

Construction Type: HIGHWAY

COUNTIES:

Bladen	Lee	Robeson
Cleveland	Lenoir	Rowan
Columbus	Lincoln	Sampson
Davidson	Montgomery	Scotland
Duplin	Moore	Stanly
Harnett	Richmond	Wilson
Iredell		

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects, railroad construction, bascule, suspension and spandrel arch bridges designed for commercial navigation, bridges involving marine construction, and other major bridges).

Modification Number
0

Publication Date
01/04/2013

C203160 (C-4901A)

25

Davidson County

SUNC2011-077 09/16/2011

	Rates	Fringes
CARPENTER (Form Work Only)	13.30	
CEMENT MASON/CONCRETE FINISHER	14.18	
INSTALLER (Guardrail) (includes Guiderail/Post Driver Work)	11.76	
IRONWORKER (Reinforcing)	13.90	
LABORER		
Asphalt, Asphalt Distributor, Raker, and Spreader	12.81	
Common or General		
Davidson County	10.64	
Harnett County	10.41	
Iredell County	10.38	
Lenoir County	9.98	
Remaining Counties	10.27	
Richmond County	10.46	
Robeson County	10.07	
Rowan County	10.25	
Stanly County	9.03	
Concrete Saw	11.56	
Landscape	9.90	
Luteman	12.68	
Mason Tender (Cement/Concrete)	10.53	
Pipelayer		
Remaining Counties	11.79	
Stanly County	12.25	
Traffic Control (Flagger)	10.31	
POWER EQUIPMENT OPERATORS		
Backhoe/Excavator/Trackhoe	14.64	
Broom/Sweeper	12.29	
Bulldozer	15.32	
Crane	19.10	
Grader/Blade	19.29	
Loader	13.93	
Mechanic	15.92	
Milling Machine		
Columbus, Davidson, Duplin, Lenoir, Lincoln, Moore, Richmond, and Stanly Counties	14.09	
Remaining Counties	13.80	
Oiler	14.19	
Paver	14.10	
Roller	12.83	
Scraper	12.29	
Screed	14.75	
Tractor	13.92	
TRUCK DRIVER		
Dump Truck		
Davidson County	12.61	
Remaining Counties	11.80	
Lowboy Truck	15.99	
Single Axle Truck	12.07	
Water Truck	13.82	

Welders – Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

Jun 10, 2013 3:30 pm

ITEMIZED PROPOSAL FOR CONTRACT NO. C203160

County : Davidson

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
ROADWAY ITEMS						
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum	L.S.	
0003	0000700000-N	SP	FIELD OFFICE	Lump Sum	L.S.	
0004	0036000000-E	225	UNDERCUT EXCAVATION	1,080 CY		
0005	0043000000-N	226	GRADING	Lump Sum	L.S.	
0006	0050000000-E	226	SUPPLEMENTARY CLEARING & GRUB-BING	3 ACR		
0007	0134000000-E	240	DRAINAGE DITCH EXCAVATION	9,010 CY		
0008	0141000000-E	240	BERM DITCH CONSTRUCTION	3,260 LF		
0009	0194000000-E	SP	SELECT GRANULAR MATERIAL, CLASS III	3,200 CY		
0010	0195000000-E	265	SELECT GRANULAR MATERIAL	1,080 CY		
0011	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	15,550 SY		
0012	0223000000-E	275	ROCK PLATING	670 SY		
0013	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	30 TON		
0014	0320000000-E	300	FOUNDATION CONDITIONING GEOTEXTILE	100 SY		
0015	0536000000-E	310	**** HDPE PIPE CULVERTS (24")	59 LF		
0016	0986000000-E	SP	GENERIC PIPE ITEM 36" WELDED STEEL PIPE 0.532" THICK GRADE B IN SOIL	74 LF		
0017	0986000000-E	SP	GENERIC PIPE ITEM 36" WELDED STEEL PIPE 0.532" THICK GRADE B NOT IN SOIL	73 LF		
0018	0986000000-E	SP	GENERIC PIPE ITEM 36" WELDED STEEL PIPE 0.532" THICK GRADE B OPEN CUT	89 LF		

Jun 10, 2013 3:30 pm

ITEMIZED PROPOSAL FOR CONTRACT NO. C203160

County : Davidson

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0019	0986000000-E	SP	GENERIC PIPE ITEM 42" WELDED STEEL PIPE 0.625" THICK GRADE B IN SOIL	93 LF		
0020	0986000000-E	SP	GENERIC PIPE ITEM 42" WELDED STEEL PIPE 0.625" THICK GRADE B NOT IN SOIL	93 LF		
0021	0986000000-E	SP	GENERIC PIPE ITEM 42" WELDED STEEL PIPE 0.625" THICK GRADE B OPEN CUT	77 LF		
0022	0986000000-E	SP	GENERIC PIPE ITEM 48" WELDED STEEL PIPE 0.688" THICK GRADE B IN SOIL	75 LF		
0023	0986000000-E	SP	GENERIC PIPE ITEM 48" WELDED STEEL PIPE 0.688" THICK GRADE B NOT IN SOIL	75 LF		
0024	0986000000-E	SP	GENERIC PIPE ITEM 48" WELDED STEEL PIPE 0.688" THICK GRADE B OPEN CUT	80 LF		
0025	0986000000-E	SP	GENERIC PIPE ITEM 54" BCCMP PIPE CULV 0.138" THICK	58 LF		
0026	0986000000-E	SP	GENERIC PIPE ITEM 72" WELDED STEEL PIPE 1.000" THICK GRADE B IN SOIL	46 LF		
0027	0986000000-E	SP	GENERIC PIPE ITEM 72" WELDED STEEL PIPE 1.000" THICK GRADE B NOT IN SOIL	47 LF		
0028	0986000000-E	SP	GENERIC PIPE ITEM 72" WELDED STEEL PIPE 1.000" THICK GRADE B OPEN CUT	34 LF		
0029	0995000000-E	340	PIPE REMOVAL	83 LF		
0030	1077000000-E	SP	#57 STONE	12,800 TON		
0031	1099500000-E	505	SHALLOW UNDERCUT	250 CY		
0032	1099700000-E	505	CLASS IV SUBGRADE STABILIZA- TION	510 TON		
0033	1220000000-E	545	INCIDENTAL STONE BASE	1,000 TON		

County : Davidson

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0034	1489000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0B	780 TON		
0035	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	35 TON		
0036	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	15 TON		
0037	2070000000-N	815	SUBDRAIN PIPE OUTLET	8 EA		
0038	2077000000-E	815	6" OUTLET PIPE	295 LF		
0039	2209000000-E	838	ENDWALLS	66.4 CY		
0040	2220000000-E	838	REINFORCED ENDWALLS	25.4 CY		
0041	2275000000-E	SP	FLOWABLE FILL	160 CY		
0042	2484000000-E	SP	GENERIC DRAINAGE ITEM SUBSURFACE DRAIN	3,080 LF		
0043	2489000000-E	SP	GENERIC DRAINAGE ITEM ARTICULATING CONCRETE BLOCK	50 SY		
0044	3030000000-E	862	STEEL BM GUARDRAIL	50 LF		
0045	3105000000-N	862	STEEL BM GUARDRAIL TERMINAL SECTIONS	4 EA		
0046	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	5 EA		
0047	3360000000-E	863	REMOVE EXISTING GUARDRAIL	117.4 LF		
0048	3628000000-E	876	RIP RAP, CLASS I	2,440 TON		
0049	3635000000-E	876	RIP RAP, CLASS II	1,575 TON		
0050	3649000000-E	876	RIP RAP, CLASS B	14,940 TON		
0051	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	8,400 SY		
0052	3832000000-E	SP	RAILROAD TRACK TO BE REMOVED	1,570 TF		

Jun 10, 2013 3:30 pm

ITEMIZED PROPOSAL FOR CONTRACT NO. C203160

County: Davidson

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0053	3885000000-E	SP	GENERIC TRACKWORK ITEM SUB-BALLAST	57,100 TON		
0054	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	224 SF		
0055	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	100 SF		
0056	4445000000-E	1145	BARRICADES (TYPE III)	80 LF		
0057	4450000000-N	1150	FLAGGER	16 HR		
0058	4507000000-E	1170	WATER FILLED BARRIER	96 LF		
0059	4915000000-E	1264	7' U-CHANNEL POSTS	6 EA		
0060	4955000000-N	1264	OBJECT MARKERS (END OF ROAD)	6 EA		
0061	5325600000-E	1510	6" WATER LINE	260 LF		
0062	5327400000-E	1510	24" WATER LINE	308 LF		
0063	5540000000-E	1515	6" VALVE	1 EA		
0064	5648000000-N	1515	RELOCATE WATER METER	2 EA		
0065	5684400000-E	1515	6" LINE STOP WITH BYPASS	2 EA		
0066	5685600000-E	1515	24" LINE STOP WITH BYPASS	2 EA		
0067	5798000000-E	1530	ABANDON *** UTILITY PIPE (6")	255 LF		
0068	5813000000-E	1530	ABANDON 24" UTILITY PIPE	236 LF		
0069	5835800000-E	1540	18" ENCASEMENT PIPE	220 LF		
0070	5836400000-E	1540	36" ENCASEMENT PIPE	185 LF		
0071	5872000000-E	1550	TRENCHLESS INSTALLATION OF 18" IN SOIL	42 LF		

County : Davidson

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0072	5872010000-E	1550	TRENCHLESS INSTALLATION OF 18" NOT IN SOIL	41 LF		
0073	5872400000-E	1550	TRENCHLESS INSTALLATION OF 36" IN SOIL	39 LF		
0074	5872410000-E	1550	TRENCHLESS INSTALLATION OF 36" NOT IN SOIL	38 LF		
0075	6000000000-E	1605	TEMPORARY SILT FENCE	56,940 LF		
0076	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	125 TON		
0077	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	2,570 TON		
0078	6012000000-E	1610	SEDIMENT CONTROL STONE	1,230 TON		
0079	6015000000-E	1615	TEMPORARY MULCHING	178 ACR		
0080	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	3,550 LB		
0081	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	15.5 TON		
0082	6024000000-E	1622	TEMPORARY SLOPE DRAINS	2,250 LF		
0083	6029000000-E	SP	SAFETY FENCE	100 LF		
0084	6030000000-E	1630	SILT EXCAVATION	12,740 CY		
0085	6036000000-E	1631	MATTING FOR EROSION CONTROL	112,500 SY		
0086	6037000000-E	SP	COIR FIBER MAT	300 SY		
0087	6038000000-E	SP	PERMANENT SOIL REINFORCEMENT MAT	5,600 SY		
0088	6045000000-E	SP	*** TEMPORARY PIPE (24")	145 LF		
0089	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	75 SY		
0090	6070000000-N	1639	SPECIAL STILLING BASINS	9 EA		

Jun 10, 2013 3:30 pm

ITEMIZED PROPOSAL FOR CONTRACT NO. C203160

County : Davidson

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0091	6071012000-E	SP	COIR FIBER WATTLE	6,150 LF		
0092	6071020000-E	SP	POLYACRYLAMIDE (PAM)	2,325 LB		
0093	6071030000-E	1640	COIR FIBER BAFFLE	3,500 LF		
0094	6071050000-E	SP	*** SKIMMER (1-1/2")	17 EA		
0095	6071050000-E	SP	*** SKIMMER (2")	1 EA		
0096	6084000000-E	1660	SEEDING & MULCHING	102 ACR		
0097	6087000000-E	1660	MOWING	114 ACR		
0098	6090000000-E	1661	SEED FOR REPAIR SEEDING	1,800 LB		
0099	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	5 TON		
0100	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	2,400 LB		
0101	6108000000-E	1665	FERTILIZER TOPDRESSING	71.5 TON		
0102	6111000000-E	SP	IMPERVIOUS DIKE	110 LF		
0103	6114500000-N	1667	SPECIALIZED HAND MOWING	40 MHR		
0104	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	150 EA		
0105	6123000000-E	1670	REFORESTATION	18 ACR		
0106	6126000000-E	SP	STREAMBANK REFORESTATION	4 ACR		
0107	6132000000-N	SP	GENERIC EROSION CONTROL ITEM SUPPLEMENTAL RESPONSE FOR EROSION CONTROL	10 EA		

Jun 10, 2013 3:30 pm

ITEMIZED PROPOSAL FOR CONTRACT NO. C203160

County : Davidson

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
CULVERT ITEMS						
0108	8245000000-E	425	REINFORCING STEEL (CULVERT)	1,162 LB		
0109	8826000000-E	420	GENERIC CULVERT ITEM CLASS AA CONCRETE (CULVERT)	5.7 CY		
STRUCTURE ITEMS						
0110	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** (7662+38.00-M2-)	Lump Sum	L.S.	
0111	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** (7740+96.34-M1-)	Lump Sum	L.S.	
0112	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** (7761+14.08-M1-)	Lump Sum	L.S.	
0113	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (PIER 1,7662+38.00-M2-)	Lump Sum	L.S.	
0114	8105500000-E	411	***,*** DIA DRILLED PIERS IN SOIL (5'-0")	43 LF		
0115	8105600000-E	411	***,*** DIA DRILLED PIERS NOT IN SOIL (5'-0")	20 LF		
0116	8111000000-E	411	PERMANENT STEEL CASING FOR ***,*** DIA DRILLED PIER (5'-0")	46.9 LF		
0117	8113000000-N	411	SID INSPECTIONS	4 EA		
0118	8115000000-N	411	CSL TESTING	4 EA		
0119	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVA- TION AT STATION ***** (7761+14.08-M1-)	Lump Sum	L.S.	
0120	8147000000-E	420	REINFORCED CONCRETE DECK SLAB	11,069 SF		
0121	8175000000-E	420	CLASS AA CONCRETE (BRIDGE)	323 CY		

Jun 10, 2013 3:30 pm

ITEMIZED PROPOSAL FOR CONTRACT NO. C203160

County : Davidson

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0122	8217000000-E	425	REINFORCING STEEL (BRIDGE)	50,066 LB		
0123	8453000000-E	454	METHOD B DAMPPROOFING	299 SY		
0124	8608000000-E	876	RIP RAP CLASS II (2'-0" THICK)	879 TON		
0125	8622000000-E	876	GEOTEXTILE FOR DRAINAGE	976 SY		
0126	8685000000-E	SP	EPOXY MORTAR REPAIRS	574.2 SF		
0127	8741000000-N	SP	STRUCTURE DRAINAGE SYSTEM AT STA***** (7662+38.00-M2-)	Lump Sum	L.S.	
0128	8741000000-N	SP	STRUCTURE DRAINAGE SYSTEM AT STA***** (7761+14.08-M1-)	Lump Sum	L.S.	
0129	8860000000-N	SP	GENERIC STRUCTURE ITEM APPROX. 1,292,176 LBS. STRUCTURAL STEEL	Lump Sum	L.S.	
0130	8860000000-N	SP	GENERIC STRUCTURE ITEM APPROX. 565,779 LBS. STRUCTURAL STEEL	Lump Sum	L.S.	
0131	8860000000-N	SP	GENERIC STRUCTURE ITEM PAINTING OF STRUCTURAL STEEL	Lump Sum	L.S.	
0132	8860000000-N	SP	GENERIC STRUCTURE ITEM SELF-LUBRICATING EXPANSION BEARING ASSEMBLIES	Lump Sum	L.S.	
0133	8860000000-N	SP	GENERIC STRUCTURE ITEM TEMP RR SHORING FOR ABUT 1, STA.7662+38.00-M1-	Lump Sum	L.S.	
0134	8860000000-N	SP	GENERIC STRUCTURE ITEM TEMP RR SHORING FOR ABUT 2, STA.7662+38.00-M1-	Lump Sum	L.S.	
0135	8867000000-E	SP	GENERIC STRUCTURE ITEM CONCRETE PARAPET	717.6 LF		
0136	8867000000-E	SP	GENERIC STRUCTURE ITEM HP 14X73 STEEL PILES	1,254 LF		
0137	8867000000-E	SP	GENERIC STRUCTURE ITEM METAL RAIL (ALUMINUM)	853.7 LF		

Jun 10, 2013 3:30 pm

ITEMIZED PROPOSAL FOR CONTRACT NO. C203160

County : Davidson

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0138	8867000000-E	SP	GENERIC STRUCTURE ITEM METAL RAIL AND WALKWAY	277 LF		
0139	8867000000-E	SP	GENERIC STRUCTURE ITEM PILE EXCAVATION IN SOIL	759 LF		
0140	8867000000-E	SP	GENERIC STRUCTURE ITEM PILE EXCAVATION NOT IN SOIL	429 LF		
0141	8893000000-E	SP	GENERIC STRUCTURE ITEM WATERPROOFING	1,478.6 SY		
0142	8897000000-N	SP	GENERIC STRUCTURE ITEM TIE RODS	16 EA		
1530/Jun10/Q428892.9/D686826182000/E142			Total Amount Of Bid For Entire Project :			

Vendor 1 of 3: BLYTHE CONSTRUCTION, INC. (3655)
Call Order 021 (Proposal: C203160)

Bid Information

County: DAVIDSON
Address: PO Box 31635
2911 N Graham St
Charlotte , NC , 28231
Signature Check: JAMES_PAUL_McBRYDE_3655
Time Bid Received: June 18, 2013 01:51 PM
Amendment Count: 1

Bid Checksum: 6D4F06F4
Bid Total: \$15,738,016.01 ✓
Items Total: \$15,738,016.01
Time Total: \$0.00

Bidding Errors:

DBE Warning : DBE Warning: DBE Commitment Goal not met

DBE GOAL SET	10.0
DBE GOAL OBT	3.3

Vendor 1 of 3: BLYTHE CONSTRUCTION, INC. (3655)
Call Order 021 (Proposal: C203160)

Bid Bond Information

Projects:

Counties:

Bond ID: SNC13713034

Paid by Check: No

Bond Percent: 5%

Bond Maximum:

State of Incorporation:

Agency Execution Date: 6/6/2013 9

Surety Name: surety2000

Bond Agency Name: Travelers Casualty and Surety
Company of America

Vendor 3655's Bid Information for Call 021, Letting L130618, 06/18/13

Blythe Construction Inc (3655)
Call Order 021 (Proposal ID C203160)

LIST OF DBE PARTICIPANTS

VENDOR NUMBER	DBE NAME ADDRESS	WORK CODE TYPE OF WORK	CERT TYPE AMOUNT	
3230 WB	HIATT & MASON ENTERPRISES, INC POST OFFICE BOX 1378 , MOUNT AIRY, NC 27030		Sub	85,345.73 Committed
4434 WB	LONG BROTHERS OF SUMMERFIELD, I PO BOX 35048 , GREENSBORO, NC 27425		Sub	158,708.00 Committed
2976 WB	CAROLINA ENVIRONMENTAL CONTRACT POST OFFICE BOX 1905 , MT. AIRY, NC 27030		Sub	132,052.40 Committed
4761 WB	TRAFFIC CONTROL SAFETY SERVICES POST OFFICE BOX 24511 , WINSTON-SALEM, NC 27114		Sub	8,600.00 Committed
10869 MB	SK HAULING LLC 188 DOUBLE SPRING LANE , LEXINGTON, NC 27295		Sub	134,347.50 Committed
			TOTAL:	\$519,053.63 3.30%

Vendor 3655's Bid Information for Call 021, Letting L130618, 06/18/13

Blythe Construction Inc (3655)
Call Order 021 (Proposal ID C203160)

Miscellaneous Data Info - Contractor Responses:

=====

NON-COLLUSION AND DEBARMENT CERTIFICATION

Explanation of the prospective bidder that is unable to certify to any of the statements in this certification:

Explanation:

NOT ANSWERED

NOT ANSWERED

NOT ANSWERED

NOT ANSWERED

AWARD LIMITS ON MULTIPLE PROJECTS

By answering YES to this statement, the bidder acknowledges that they are using the award limits on multiple projects. No

It is the desire of the Bidder to be awarded contracts, the value of which will not exceed a total of NOT ANSWERED for those projects indicated herein, for which bids will be opened on (MM/DD/YY)

The Award Limits shall apply to the following projects:

Contract Number	County
NOT ANSWERED	
NOT ANSWERED	
NOT ANSWERED	
NOT ANSWERED	
NOT ANSWERED	
NOT ANSWERED	

Bid Bond Data Info - Contractor Responses:

=====

BondID: SNC13713034
Surety Registry Agency: surety2000
Verified?: Yes
Surety Agency: Travelers Casualty and Surety Company of America
Bond Execution Date: 6/6/2013 9
Bond Amount: \$786,900.80 (Five Percent of Bid)

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
Section 0001 ROADWAY ITEMS				
Alt Group				
0001	0000100000-N MOBILIZATION	LUMP	LUMP	810,000.00
0002	0000400000-N CONSTRUCTION SURVEYING	LUMP	LUMP	150,000.00
0003	0000700000-N FIELD OFFICE	LUMP	LUMP	200,000.00
0004	0036000000-E UNDERCUT EXCAVATION	1,080.000 CY	9.25000	9,990.00
0005	0043000000-N GRADING	LUMP	LUMP	1,622,346.00
0006	0050000000-E SUPPLEMENTARY CLEARING & GRUB-BING	3.000 ACR	1.00000	3.00
0007	0134000000-E DRAINAGE DITCH EXCAVATION	9,010.000 CY	9.50000	85,595.00
0008	0141000000-E BERM DITCH CONSTRUCTION	3,260.000 LF	3.00000	9,780.00
0009	0194000000-E SELECT GRANULAR MATERIAL, CLASS III	3,200.000 CY	36.75000	117,600.00
0010	0195000000-E SELECT GRANULAR MATERIAL	1,080.000 CY	37.00000	39,960.00
0011	0196000000-E GEOTEXTILE FOR SOIL STABILIZATION	15,550.000 SY	3.50000	54,425.00

State of NC
Dept of Transportation

Date: 05-21-13
Revised: 06-10-13

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0012	0223000000-E ROCK PLATING	670.000 SY	50.00000	33,500.00
0013	0318000000-E FOUNDATION CONDITIONING MATE- RIAL, MINOR STRUCTURES	30.000 TON	35.00000	1,050.00
0014	0320000000-E FOUNDATION CONDITIONING GEO- TEXTILE	100.000 SY	3.00000	300.00
0015	0536000000-E ***" HDPE PIPE CULVERTS (24")	59.000 LF	58.00000	3,422.00
0016	0986000000-E GENERIC PIPE ITEM 36" WELDED STEEL PIPE 0.532" THICK GRADE B IN SOIL	74.000 LF	359.00000	26,566.00
0017	0986000000-E GENERIC PIPE ITEM 36" WELDED STEEL PIPE 0.532" THICK GRADE B NOT IN SOIL	73.000 LF	359.00000	26,207.00
0018	0986000000-E GENERIC PIPE ITEM 36" WELDED STEEL PIPE 0.532" THICK GRADE B OPEN CUT	89.000 LF	199.00000	17,711.00
0019	0986000000-E GENERIC PIPE ITEM 42" WELDED STEEL PIPE 0.625" THICK GRADE B IN SOIL	93.000 LF	469.00000	43,617.00
0020	0986000000-E GENERIC PIPE ITEM 42" WELDED STEEL PIPE 0.625" THICK GRADE B NOT IN SOIL	93.000 LF	469.00000	43,617.00
0021	0986000000-E GENERIC PIPE ITEM 42" WELDED STEEL PIPE 0.625" THICK GRADE B OPEN CUT	77.000 LF	259.00000	19,943.00

State of NC
Dept of Transportation

Date: 05-21-13
Revised: 06-10-13

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0022	0986000000-E GENERIC PIPE ITEM 48" WELDED STEEL PIPE 0.688" THICK GRADE B IN SOIL	75.000 LF	519.00000	38,925.00
0023	0986000000-E GENERIC PIPE ITEM 48" WELDED STEEL PIPE 0.688" THICK GRADE B NOT IN SOIL	75.000 LF	519.00000	38,925.00
0024	0986000000-E GENERIC PIPE ITEM 48" WELDED STEEL PIPE 0.688" THICK GRADE B OPEN CUT	80.000 LF	309.00000	24,720.00
0025	0986000000-E GENERIC PIPE ITEM 54" BCCMP PIPE CULV 0.138" THICK	58.000 LF	210.00000	12,180.00
0026	0986000000-E GENERIC PIPE ITEM 72" WELDED STEEL PIPE 1.000" THICK GRADE B IN SOIL	46.000 LF	1,199.00000	55,154.00
0027	0986000000-E GENERIC PIPE ITEM 72" WELDED STEEL PIPE 1.000" THICK GRADE B NOT IN SOIL	47.000 LF	1,199.00000	56,353.00
0028	0986000000-E GENERIC PIPE ITEM 72" WELDED STEEL PIPE 1.000" THICK GRADE B OPEN CUT	34.000 LF	699.00000	23,766.00
0029	0995000000-E PIPE REMOVAL	83.000 LF	9.50000	788.50
0030	1077000000-E #57 STONE TON	12,800.000 TON	32.00000	409,600.00
0031	1099500000-E SHALLOW UNDERCUT	250.000 CY	11.00000	2,750.00

State of NC
Dept of Transportation

Date: 05-21-13
Revised: 06-10-13

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0032	1099700000-E CLASS IV SUBGRADE STABILIZA- TION	510.000 TON	39.00000	19,890.00
0033	1220000000-E INCIDENTAL STONE BASE	1,000.000 TON	25.00000	25,000.00
0034	1489000000-E ASPHALT CONC BASE COURSE, TYPE B25.0B	780.000 TON	60.00000	46,800.00
0035	1575000000-E ASPHALT BINDER FOR PLANT MIX	35.000 TON	630.00000	22,050.00
0036	1693000000-E ASPHALT PLANT MIX, PAVEMENT REPAIR	15.000 TON	175.00000	2,625.00
0037	2070000000-N SUBDRAIN PIPE OUTLET	8.000 EA	300.00000	2,400.00
0038	2077000000-E 6" OUTLET PIPE	295.000 LF	9.00000	2,655.00
0039	2209000000-E ENDWALLS	66.400 CY	1,350.00000	89,640.00
0040	2220000000-E REINFORCED ENDWALLS	25.400 CY	1,500.00000	38,100.00
0041	2275000000-E FLOWABLE FILL	160.000 CY	125.00000	20,000.00
0042	2484000000-E GENERIC DRAINAGE ITEM SUBSURFACE DRAIN	3,080.000 LF	7.50000	23,100.00

State of NC
Dept of Transportation

Date: 05-21-13
Revised: 06-10-13

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
0043	2489000000-E GENERIC DRAINAGE ITEM ARTICULATING CONCRETE BLOCK	50.000 SY	88.00000	4,400.00
0044	3030000000-E STEEL BM GUARDRAIL	50.000 LF	14.50000	725.00
0045	3105000000-N STEEL BM GUARDRAIL TERMINAL SECTIONS	4.000 EA	25.00000	100.00
0046	3150000000-N ADDITIONAL GUARDRAIL POSTS	5.000 EA	1.00000	5.00
0047	3360000000-E REMOVE EXISTING GUARDRAIL	117.400 LF	2.00000	234.80
0048	3628000000-E RIP RAP, CLASS I	2,440.000 TON	45.00000	109,800.00
0049	3635000000-E RIP RAP, CLASS II	1,575.000 TON	50.00000	78,750.00
0050	3649000000-E RIP RAP, CLASS B	14,940.000 TON	40.00000	597,600.00
0051	3656000000-E GEOTEXTILE FOR DRAINAGE	8,400.000 SY	3.50000	29,400.00
0052	3832000000-E RAILROAD TRACK TO BE REMOVED	1,570.000 TF	1.00000	1,570.00
0053	3885000000-E GENERIC TRACKWORK ITEM SUB-BALLAST	57,100.000 TON	33.00000	1,884,300.00

State of NC
Dept of Transportation

Date: 05-21-13
Revised: 06-10-13

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
0054	4400000000-E WORK ZONE SIGNS (STATIONARY)	224.000 SF	7.50000	1,680.00
0055	4410000000-E WORK ZONE SIGNS (BARRICADE MOUNTED)	100.000 SF	7.00000	700.00
0056	4445000000-E BARRICADES (TYPE III)	80.000 LF	18.00000	1,440.00
0057	4450000000-N FLAGGER	16.000 HR	22.00000	352.00
0058	4507000000-E WATER FILLED BARRIER	96.000 LF	70.00000	6,720.00
0059	4915000000-E 7' U-CHANNEL POSTS	6.000 EA	35.00000	210.00
0060	4955000000-N OBJECT MARKERS (END OF ROAD)	6.000 EA	70.00000	420.00
0061	5325600000-E 6" WATER LINE	260.000 LF	65.00000	16,900.00
0062	5327400000-E 24" WATER LINE	308.000 LF	171.00000	52,668.00
0063	5540000000-E 6" VALVE	1.000 EA	518.77000	518.77
0064	5648000000-N RELOCATE WATER METER	2.000 EA	164.27000	328.54
0065	5684400000-E 6" LINE STOP WITH BYPASS	2.000 EA	4,900.00000	9,800.00

State of NC
Dept of Transportation

Date: 05-21-13
Revised: 06-10-13

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
0066	5685600000-E 24" LINE STOP WITH BYPASS	2.000 EA	25,000.00000	50,000.00
0067	5798000000-E ABANDON *** UTILITY PIPE (6")	255.000 LF	7.00000	1,785.00
0068	5813000000-E ABANDON 24" UTILITY PIPE	236.000 LF	7.00000	1,652.00
0069	5835800000-E 18" ENCASEMENT PIPE	220.000 LF	275.00000	60,500.00
0070	5836400000-E 36" ENCASEMENT PIPE	185.000 LF	550.00000	101,750.00
0071	5872000000-E TRENCHLESS INSTALLATION OF 18"IN SOIL	42.000 LF	275.00000	11,550.00
0072	5872010000-E TRENCHLESS INSTALLATION OF 18"NOT IN SOIL	41.000 LF	400.00000	16,400.00
0073	5872400000-E TRENCHLESS INSTALLATION OF 36"IN SOIL	39.000 LF	596.00000	23,244.00
0074	5872410000-E TRENCHLESS INSTALLATION OF 36"NOT IN SOIL	38.000 LF	1,250.00000	47,500.00
0075	6000000000-E TEMPORARY SILT FENCE	56,940.000 LF	1.56000	88,826.40
0076	6006000000-E STONE FOR EROSION CONTROL, CLASS A	125.000 TON	45.00000	5,625.00
0077	6009000000-E STONE FOR EROSION CONTROL, CLASS B	2,570.000 TON	45.00000	115,650.00

State of NC
Dept of Transportation

Date: 05-21-13
Revised: 06-10-13

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
0078	6012000000-E SEDIMENT CONTROL STONE	1,230.000 TON	43.00000	52,890.00
0079	6015000000-E TEMPORARY MULCHING	178.000 ACR	450.00000	80,100.00
0080	6018000000-E SEED FOR TEMPORARY SEEDING	3,550.000 LB	4.25000	15,087.50
0081	6021000000-E FERTILIZER FOR TEMPORARY SEED-ING	15.500 TON	600.00000	9,300.00
0082	6024000000-E TEMPORARY SLOPE DRAINS	2,250.000 LF	12.50000	28,125.00
0083	6029000000-E SAFETY FENCE	100.000 LF	1.76000	176.00
0084	6030000000-E SILT EXCAVATION	12,740.000 CY	10.50000	133,770.00
0085	6036000000-E MATTING FOR EROSION CONTROL	112,500.000 SY	1.20000	135,000.00
0086	6037000000-E COIR FIBER MAT	300.000 SY	3.20000	960.00
0087	6038000000-E PERMANENT SOIL REINFORCEMENT MAT	5,600.000 SY	4.20000	23,520.00
0088	6045000000-E *** TEMPORARY PIPE (24")	145.000 LF	25.00000	3,625.00
0089	6048000000-E FLOATING TURBIDITY CURTAIN	75.000 SY	75.00000	5,625.00

State of NC
Dept of Transportation

Date: 05-21-13
Revised: 06-10-13

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0090	6070000000-N SPECIAL STILLING BASINS	9.000 EA	325.00000	2,925.00
0091	6071012000-E COIR FIBER WATTLE	6,150.000 LF	7.00000	43,050.00
0092	6071020000-E POLYACRYLAM IDE (PAM)	2,325.000 LB	8.10000	18,832.50
0093	6071030000-E COIR FIBER BAFFLE	3,500.000 LF	7.00000	24,500.00
0094	6071050000-E *** SKIMMER (1-1/2")	17.000 EA	750.00000	12,750.00
0095	6071050000-E *** SKIMMER (2")	1.000 EA	750.00000	750.00
0096	6084000000-E SEEDING & MULCHING	102.000 ACR	1,400.00000	142,800.00
0097	6087000000-E MOWING	114.000 ACR	68.00000	7,752.00
0098	6090000000-E SEED FOR REPAIR SEEDING	1,800.000 LB	6.10000	10,980.00
0099	6093000000-E FERTILIZER FOR REPAIR SEEDING	5.000 TON	1,200.00000	6,000.00
0100	6096000000-E SEED FOR SUPPLEMENTAL SEEDING	2,400.000 LB	6.25000	15,000.00
0101	6108000000-E FERTILIZER TOPDRESSING	71.500 TON	875.00000	62,562.50

State of NC
Dept of Transportation

Date: 05-21-13
Revised: 06-10-13

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0102	6111000000-E IMPERVIOUS DIKE	110.000 LF	75.00000	8,250.00
0103	6114500000-N SPECIALIZED HAND MOWING	40.000 MHR	55.00000	2,200.00
0104	6117000000-N RESPONSE FOR EROSION CONTROL	150.000 EA	60.00000	9,000.00
0105	6123000000-E REFORESTATI ON	18.000 ACR	2,050.00000	36,900.00
0106	6126000000-E STREAMBANK REFORESTATION	4.000 ACR	5,100.00000	20,400.00
0107	6132000000-N GENERIC EROSION CONTROL ITEM SUPPLEMENTAL RESPONSE FOR EROSION CONTROL	10.000 EA	300.00000	3,000.00
	Section 0001 Total			8,509,988.51

Section 0002 CULVERT ITEMS

Alt Group

0108	8245000000-E REINFORCING STEEL (CULVERT)	1,162.000 LB	5.00000	5,810.00
0109	8826000000-E GENERIC CULVERT ITEM CLASS AA CONCRETE (CULVERT)	5.700 CY	2,500.00000	14,250.00
	Section 0002 Total			20,060.00

Section 0004 STRUCTURE ITEMS

Alt Group

State of NC
Dept of Transportation

Date: 05-21-13
Revised: 06-10-13

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0110	8035000000-N REMOVAL OF EXISTING STRUCTURE AT STATION ***** (7662+38.00-M2-)	LUMP	LUMP	120,000.00
0111	8035000000-N REMOVAL OF EXISTING STRUCTURE AT STATION ***** (7740+96.34-M1-)	LUMP	LUMP	40,000.00
0112	8035000000-N REMOVAL OF EXISTING STRUCTURE AT STATION ***** (7761+14.08-M1-)	LUMP	LUMP	220,000.00
0113	8091000000-N FOUNDATION EXCAVATION FOR BENT** AT STATION ***** (PIER 1,7662+38.00-M2-)	LUMP	LUMP	5,000.00
0114	8105500000-E **'-**" DIA DRILLED PIERS IN SOIL (5'-0")	43.000 LF	2,500.00000	107,500.00
0115	8105600000-E **'-**" DIA DRILLED PIERS NOT IN SOIL (5'-0")	20.000 LF	2,500.00000	50,000.00
0116	8111000000-E PERMANENT STEEL CASING FOR **'-**" DIA DRILLED PIER (5'-0")	46.900 LF	350.00000	16,415.00
0117	8113000000-N SID INSPECTIONS	4.000 EA	300.00000	1,200.00
0118	8115000000-N CSL TESTING	4.000 EA	1,700.00000	6,800.00
0119	8121000000-N UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ***** (7761+14.08-M1-)	LUMP	LUMP	5,000.00

State of NC
Dept of Transportation

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Revised: 06-10-13

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Cts
0120	8147000000-E REINFORCED CONCRETE DECK SLAB	11,069.000 SF	50.00000	553,450.00
0121	8175000000-E CLASS AA CONCRETE (BRIDGE)	323.000 CY	800.00000	258,400.00
0122	8217000000-E REINFORCING STEEL (BRIDGE)	50,066.000 LB	1.00000	50,066.00
0123	8453000000-E METHOD B DAMPPROOFING	299.000 SY	20.00000	5,980.00
0124	8608000000-E RIP RAP CLASS II (2'-0" THICK)	879.000 TON	50.00000	43,950.00
0125	8622000000-E GEOTEXTILE FOR DRAINAGE	976.000 SY	2.00000	1,952.00
0126	8685000000-E EPOXY MORTAR REPAIRS	574.200 SF	90.00000	51,678.00
0127	8741000000-N STRUCTURE DRAINAGE SYSTEM AT STA***** (7662+38.00-M2-)	LUMP	LUMP	40,000.00
0128	8741000000-N STRUCTURE DRAINAGE SYSTEM AT STA***** (7761+14.08-M1-)	LUMP	LUMP	65,000.00
0129	8860000000-N GENERIC STRUCTURE ITEM APPROX. 1,292,176 LBS. STRUCTURAL STEEL	LUMP	LUMP	2,605,000.00
0130	8860000000-N GENERIC STRUCTURE ITEM APPROX. 565,779 LBS. STRUCTURAL STEEL	LUMP	LUMP	1,200,000.00

State of NC
Dept of Transportation

Date: 05-21-13
Revised: 06-10-13

Contract ID: C203160

Project(s): FRA-FR-HSR-0006-10-01-

Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line No.	Item Description	Approx. Quantity and Units	Unit Price Dollars Cts	Bid Amount Dollars Ct
0131	8860000000-N GENERIC STRUCTURE ITEM PAINTING OF STRUCTURAL STEEL	LUMP	LUMP	300,000.00
0132	8860000000-N GENERIC STRUCTURE ITEM SELF-LUBRICATING EXPANSION BEARING ASSEMBLIES	LUMP	LUMP	120,000.00
0133	8860000000-N GENERIC STRUCTURE ITEM TEMP RR SHORING FOR ABUT 1, STA.7662+38.00-M1-	LUMP	LUMP	200,000.00
0134	8860000000-N GENERIC STRUCTURE ITEM TEMP RR SHORING FOR ABUT 2, STA.7662+38.00-M1-	LUMP	LUMP	120,000.00
0135	8867000000-E GENERIC STRUCTURE ITEM CONCRETE PARAPET	717.600 LF	100.00000	71,760.00
0136	8867000000-E GENERIC STRUCTURE ITEM HP 14X73 STEEL PILES	1,254.000 LF	75.00000	94,050.00
0137	8867000000-E GENERIC STRUCTURE ITEM METAL RAIL (ALUMINUM)	853.700 LF	105.00000	89,638.50
0138	8867000000-E GENERIC STRUCTURE ITEM METAL RAIL AND WALKWAY	277.000 LF	400.00000	110,800.00
0139	8867000000-E GENERIC STRUCTURE ITEM PILE EXCAVATION IN SOIL	759.000 LF	330.00000	250,470.00
0140	8867000000-E GENERIC STRUCTURE ITEM PILE EXCAVATION NOT IN SOIL	429.000 LF	330.00000	141,570.00
0141	8893000000-E GENERIC STRUCTURE ITEM WATERPROOFING	1,478.600 SY	80.00000	118,288.00

State of NC
Dept of Transportation

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Revised: 06-10-13

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Letting Date: 06-18-13 Call Order: 021

Bidder: 3655 - Blythe Construction Inc

Line	Item	Approx.	Unit Price	Bid Amount
No.	Description	Quantity		
		and Units	Dollars Cts	Dollars Ct
0142	18897000000-N GENERIC STRUCTURE ITEM TIE RODS	16.000	9,000.00000	144,000.00
		EA		
	Section 0004 Total			7,207,967.50
	Bid Total			15,738,016.01

NON-COLLUSION AND DEBARMENT CERTIFICATION

The bidder certifies that neither he, nor any official, agent or employee of the bidder has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with this bid, and that the bidder intends to do the work with its own bonafide employees or subcontractors and is not bidding for the benefit of another contractor. In addition, submitting this electronic bid constitutes the bidder's certification of Status under penalty of perjury under the laws of the United States and in accordance with the Debarment Certification on file with the Department.

By submitting this bid, the bidder certifies to the best of his knowledge and belief that he and his principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records; making false statements; or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph b. of this certification; and
- d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

Where the prospective bidder is unable to certify to any of the statements in this certification, the bidder shall submit an explanation in the blanks provided herein. The explanation will not necessarily result in denial of participation in a contract.

Explanation:
NOT ANSWERED
NOT ANSWERED
NOT ANSWERED
NOT ANSWERED

If the prequalified bidder's status changes, he shall immediately submit a new fully executed non-collusion affidavit and debarment certification with an explanation of the change to the Contract Office prior to submitting the bid.

Failure to furnish a certification or an explanation will be grounds for rejection of a bid

AWARD LIMITS ON MULTIPLE PROJECTS

By answering YES to this statement, the bidder acknowledges that they are using the award limits on multiple projects. No

A bidder who desires to bid on more than one project on which bids are to be opened on the same date, and who also desires to avoid receiving an award of more projects than he is equipped to handle, may bid on any number of projects but may limit the total amount of work awarded to him on selected projects by completing the AWARD LIMITS ON MULTIPLE PROJECTS.

The Award Limits on Multiple Projects must be filled in on each project bid for which the Bidder desires protection.

It is the desire of the Bidder to be awarded contracts, the value of which will not exceed a total of NOT ANSWERED for those projects indicated herein, for which bids will be opened on (MM/DD/YY)

The Award Limits shall apply to the following projects:

Contract Number	County
NOT ANSWERED	
NOT ANSWERED	
NOT ANSWERED	
NOT ANSWERED	
NOT ANSWERED	
NOT ANSWERED	

It is agreed that if I am (we are) the low Bidder(s) on indicated projects, the total value of which is more than the above stipulated award limits, the Board of Transportation will award me (us) projects from among those indicated that have a total value not to exceed the award limit and will result in the lowest total bids to the Department of Transportation.

NORTH CAROLINA STATE DEPARTMENT OF TRANSPORTATION
DBE COMMITMENT ITEMS

DATE: 05-21-13
PAGE: 17

PROPOSAL: C203160
LETTING: L130618 CALL: 021
VENDOR: 3655 Blythe Construction Inc

LINE NO.	ITEM NO.	ITEM DESC.	UNIT TYPE	SUBCONTRACTOR QUANTITY	SUBCONTRACTOR UNIT PRICE	EXTENDED AMOUNT
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DBE SUBCONTRACTOR: 3230 HIATT & MASON ENTERPRISES, INC
Will Use Quote: Yes

0108	8245000000-E	REINF STEEL	LB	1162.000	0.61290	712.19
		Furnish & Install Rebar				
0120	8147000000-E	REINF CONCRE	SF	11069.000	4.87380	53948.09
		Furnish & Install Rebar				
0122	8217000000-E	REINF STEEL	LB	50066.000	0.61290	30685.45
		Furnish & Install Rebar				

DBE COMMITMENT TOTAL FOR SUBCONTRACTOR:	85,345.73	Committed
DBE COMMITMENT TOTAL FOR VENDOR (SubContractor)	85,345.	

DBE SUBCONTRACTOR: 4434 LONG BROTHERS OF SUMMERFIELD, INC.
Will Use Quote: Yes

0034	1489000000-E	ASP CONC BAS	TON	780.000	8.60000	6708.00
		Haul Only				
0005	0043000000-N	GRADING	LS	1.000	152000.00000	152000.00
		Hourly Haul				

DBE COMMITMENT TOTAL FOR SUBCONTRACTOR:	158,708.00	Committed
DBE COMMITMENT TOTAL FOR VENDOR (SubContractor)	158,708	

DBE SUBCONTRACTOR: 2976 CAROLINA ENVIRONMENTAL CONTRACTING, INC. PO BOX 19
Will Use Quote: Yes

0075	6000000000-E	TEMPORARY SI	LF	56940.000	1.56000	88826.40
0083	6029000000-E	SAFETY FENCE	LF	100.000	1.76000	176.00
0091	6071012000-E	COIR FIBER W	LF	6150.000	7.00000	43050.00

DBE COMMITMENT TOTAL FOR SUBCONTRACTOR:	132,052.40	Committed
DBE COMMITMENT TOTAL FOR VENDOR (SubContractor)	132,052	

DBE SUBCONTRACTOR: 4761 TRAFFIC CONTROL SAFETY SERVICES, INC.
Will Use Quote: Yes

0054	4400000000-E	WORK ZONE SI	SF	224.000	7.50000	1680.00
0055	4410000000-E	WORK ZONE SI	SF	100.000	6.50000	650.00
		Furnish Material				
0056	4445000000-E	BARRICADES (	LF	80.000	16.50000	1320.00
		Furnish Material				
0059	4915000000-E	7' U-CHANNEL	EA	6.000	35.00000	210.00
0060	4955000000-N	OBJECT MARKE	EA	6.000	70.00000	420.00
0058	4507000000-E	WATER FILLED	LF	96.000	45.00000	4320.00
		Furnish Material				

NORTH CAROLINA STATE DEPARTMENT OF TRANSPORTATION
DBE COMMITMENT ITEMS

DATE: 05-21-13
PAGE: 18

LINE NO.	ITEM NO.	ITEM DESC.	UNIT TYPE	SUBCONTRACTOR QUANTITY	SUBCONTRACTOR UNIT PRICE	EXTENDED AMOUNT
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DBE COMMITMENT TOTAL FOR SUBCONTRACTOR:

8,600.00 Committed

DBE COMMITMENT TOTAL FOR VENDOR (SubContractor)

8,600.0

DBE SUBCONTRACTOR: 10869 SK HAULING LLC

Will Use Quote: Yes

0053	3885000000-E	GENERIC TRAC TON		37100.000	3.20000	118720.00
		Haul Only				
0049	3635000000-E	RIP RAP, CLA TON		1575.000	4.50000	7087.50
0048	3628000000-E	RIP RAP, CLA TON		2440.000	3.50000	8540.00

DBE COMMITMENT TOTAL FOR SUBCONTRACTOR:

134,347.50 Committed

DBE COMMITMENT TOTAL FOR VENDOR (SubContractor)

134,347

TOTAL DBE COMMITMENT FOR VENDOR:

Entered: 3.30% or 519053.63

Required: 10.00% or 1573801.60

<GOAL NOT MET>

Contract Item Sheets For C203160

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
ROADWAY ITEMS						
0001	0000100000-N	800	MOBILIZATION	Lump Sum LS	810,000.00	810,000.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum LS	150,000.00	150,000.00
0003	0000700000-N	SP	FIELD OFFICE	Lump Sum LS	200,000.00	200,000.00
0004	0036000000-E	225	UNDERCUT EXCAVATION	1,080 CY	9.25	9,990.00
0005	0043000000-N	226	GRADING	Lump Sum LS	1,622,346.00	1,622,346.00
0006	0050000000-E	226	SUPPLEMENTARY CLEARING & GRUB- BING	3 ACR	1.00	3.00
0007	0134000000-E	240	DRAINAGE DITCH EXCAVATION	9,010 CY	9.50	85,595.00
0008	0141000000-E	240	BERM DITCH CONSTRUCTION	3,260 LF	3.00	9,780.00
0009	0194000000-E	SP	SELECT GRANULAR MATERIAL, CLASS III	3,200 CY	36.75	117,600.00
0010	0195000000-E	265	SELECT GRANULAR MATERIAL	1,080 CY	37.00	39,960.00
0011	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZA- TION	15,550 SY	3.50	54,425.00
0012	0223000000-E	275	ROCK PLATING	670 SY	50.00	33,500.00
0013	0318000000-E	300	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRUCTURES	30 TON	35.00	1,050.00
0014	0320000000-E	300	FOUNDATION CONDITIONING GEO- TEXTILE	100 SY	3.00	300.00
0015	0536000000-E	310	**** HDPE PIPE CULVERTS (24")	59 LF	58.00	3,422.00
0016	0986000000-E	SP	GENERIC PIPE ITEM 36" WELDED STEEL PIPE 0.532" THICK GRADE B IN SOIL	74 LF	359.00	26,566.00
0017	0986000000-E	SP	GENERIC PIPE ITEM 36" WELDED STEEL PIPE 0.532" THICK GRADE B NOT IN SOIL	73 LF	359.00	26,207.00
0018	0986000000-E	SP	GENERIC PIPE ITEM 36" WELDED STEEL PIPE 0.532" THICK GRADE B OPEN CUT	89 LF	199.00	17,711.00

Contract Item Sheets For C203160

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0019	0986000000-E	SP	GENERIC PIPE ITEM 42" WELDED STEEL PIPE 0.625" THICK GRADE B IN SOIL	93 LF	469.00	43,617.00
0020	0986000000-E	SP	GENERIC PIPE ITEM 42" WELDED STEEL PIPE 0.625" THICK GRADE B NOT IN SOIL	93 LF	469.00	43,617.00
0021	0986000000-E	SP	GENERIC PIPE ITEM 42" WELDED STEEL PIPE 0.625" THICK GRADE B OPEN CUT	77 LF	259.00	19,943.00
0022	0986000000-E	SP	GENERIC PIPE ITEM 48" WELDED STEEL PIPE 0.688" THICK GRADE B IN SOIL	75 LF	519.00	38,925.00
0023	0986000000-E	SP	GENERIC PIPE ITEM 48" WELDED STEEL PIPE 0.688" THICK GRADE B NOT IN SOIL	75 LF	519.00	38,925.00
0024	0986000000-E	SP	GENERIC PIPE ITEM 48" WELDED STEEL PIPE 0.688" THICK GRADE B OPEN CUT	80 LF	309.00	24,720.00
0025	0986000000-E	SP	GENERIC PIPE ITEM 54" BCCMP PIPE CULV 0.138" THICK	58 LF	210.00	12,180.00
0026	0986000000-E	SP	GENERIC PIPE ITEM 72" WELDED STEEL PIPE 1.000" THICK GRADE B IN SOIL	46 LF	1,199.00	55,154.00
0027	0986000000-E	SP	GENERIC PIPE ITEM 72" WELDED STEEL PIPE 1.000" THICK GRADE B NOT IN SOIL	47 LF	1,199.00	56,353.00
0028	0986000000-E	SP	GENERIC PIPE ITEM 72" WELDED STEEL PIPE 1.000" THICK GRADE B OPEN CUT	34 LF	699.00	23,766.00
0029	0995000000-E	340	PIPE REMOVAL	83 LF	9.50	788.50
0030	1077000000-E	SP	#57 STONE	12,800 TON	32.00	409,600.00
0031	1099500000-E	505	SHALLOW UNDERCUT	250 CY	11.00	2,750.00
0032	1099700000-E	505	CLASS IV SUBGRADE STABILIZA- TION	510 TON	39.00	19,890.00
0033	1220000000-E	545	INCIDENTAL STONE BASE	1,000 TON	25.00	25,000.00

Contract Item Sheets For C203160

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0034	1489000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0B	780 TON	60.00	46,800.00
0035	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	35 TON	630.00	22,050.00
0036	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	15 TON	175.00	2,625.00
0037	2070000000-N	815	SUBDRAIN PIPE OUTLET	8 EA	300.00	2,400.00
0038	2077000000-E	815	6" OUTLET PIPE	295 LF	9.00	2,655.00
0039	2209000000-E	838	ENDWALLS	66.4 CY	1,350.00	89,640.00
0040	2220000000-E	838	REINFORCED ENDWALLS	25.4 CY	1,500.00	38,100.00
0041	2275000000-E	SP	FLOWABLE FILL	160 CY	125.00	20,000.00
0042	2484000000-E	SP	GENERIC DRAINAGE ITEM SUBSURFACE DRAIN	3,080 LF	7.50	23,100.00
0043	2489000000-E	SP	GENERIC DRAINAGE ITEM ARTICULATING CONCRETE BLOCK	50 SY	88.00	4,400.00
0044	3030000000-E	862	STEEL BM GUARDRAIL	50 LF	14.50	725.00
0045	3105000000-N	862	STEEL BM GUARDRAIL TERMINAL SECTIONS	4 EA	25.00	100.00
0046	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	5 EA	1.00	5.00
0047	3360000000-E	863	REMOVE EXISTING GUARDRAIL	117.4 LF	2.00	234.80
0048	3628000000-E	876	RIP RAP, CLASS I	2,440 TON	45.00	109,800.00
0049	3635000000-E	876	RIP RAP, CLASS II	1,575 TON	50.00	78,750.00
0050	3649000000-E	876	RIP RAP, CLASS B	14,940 TON	40.00	597,600.00
0051	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	8,400 SY	3.50	29,400.00
0052	3832000000-E	SP	RAILROAD TRACK TO BE REMOVED	1,570 TF	1.00	1,570.00

Contract Item Sheets For C203160

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0053	3885000000-E	SP	GENERIC TRACKWORK ITEM SUB-BALLAST	57,100 TON	33.00	1,884,300.00
0054	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	224 SF	7.50	1,680.00
0055	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	100 SF	7.00	700.00
0056	4445000000-E	1145	BARRICADES (TYPE III)	80 LF	18.00	1,440.00
0057	4450000000-N	1150	FLAGGER	16 HR	22.00	352.00
0058	4507000000-E	1170	WATER FILLED BARRIER	96 LF	70.00	6,720.00
0059	4915000000-E	1264	7' U-CHANNEL POSTS	6 EA	35.00	210.00
0060	4955000000-N	1264	OBJECT MARKERS (END OF ROAD)	6 EA	70.00	420.00
0061	5325600000-E	1510	6" WATER LINE	260 LF	65.00	16,900.00
0062	5327400000-E	1510	24" WATER LINE	308 LF	171.00	52,668.00
0063	5540000000-E	1515	6" VALVE	1 EA	518.77	518.77
0064	5648000000-N	1515	RELOCATE WATER METER	2 EA	164.27	328.54
0065	5684400000-E	1515	6" LINE STOP WITH BYPASS	2 EA	4,900.00	9,800.00
0066	5685600000-E	1515	24" LINE STOP WITH BYPASS	2 EA	25,000.00	50,000.00
0067	5798000000-E	1530	ABANDON *** UTILITY PIPE (6")	255 LF	7.00	1,785.00
0068	5813000000-E	1530	ABANDON 24" UTILITY PIPE	236 LF	7.00	1,652.00
0069	5835800000-E	1540	18" ENCASEMENT PIPE	220 LF	275.00	60,500.00
0070	5836400000-E	1540	36" ENCASEMENT PIPE	185 LF	550.00	101,750.00
0071	5872000000-E	1550	TRENCHLESS INSTALLATION OF 18" IN SOIL	42 LF	275.00	11,550.00
0072	5872010000-E	1550	TRENCHLESS INSTALLATION OF 18" NOT IN SOIL	41 LF	400.00	16,400.00

Contract Item Sheets For C203160

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0073	5872400000-E	1550	TRENCHLESS INSTALLATION OF 36" IN SOIL	39 LF	596.00	23,244.00
0074	5872410000-E	1550	TRENCHLESS INSTALLATION OF 36" NOT IN SOIL	38 LF	1,250.00	47,500.00
0075	6000000000-E	1605	TEMPORARY SILT FENCE	56,940 LF	1.56	88,826.40
0076	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	125 TON	45.00	5,625.00
0077	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	2,570 TON	45.00	115,650.00
0078	6012000000-E	1610	SEDIMENT CONTROL STONE	1,230 TON	43.00	52,890.00
0079	6015000000-E	1615	TEMPORARY MULCHING	178 ACR	450.00	80,100.00
0080	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	3,550 LB	4.25	15,087.50
0081	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	15.5 TON	600.00	9,300.00
0082	6024000000-E	1622	TEMPORARY SLOPE DRAINS	2,250 LF	12.50	28,125.00
0083	6029000000-E	SP	SAFETY FENCE	100 LF	1.76	176.00
0084	6030000000-E	1630	SILT EXCAVATION	12,740 CY	10.50	133,770.00
0085	6036000000-E	1631	MATting FOR EROSION CONTROL	112,500 SY	1.20	135,000.00
0086	6037000000-E	SP	COIR FIBER MAT	300 SY	3.20	960.00
0087	6038000000-E	SP	PERMANENT SOIL REINFORCEMENT MAT	5,600 SY	4.20	23,520.00
0088	6045000000-E	SP	*** TEMPORARY PIPE (24")	145 LF	25.00	3,625.00
0089	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	75 SY	75.00	5,625.00
0090	6070000000-N	1639	SPECIAL STILLING BASINS	9 EA	325.00	2,925.00
0091	6071012000-E	SP	COIR FIBER WATTLE	6,150 LF	7.00	43,050.00

Contract Item Sheets For C203160

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0092	6071020000-E	SP	POLYACRYLAMIDE (PAM)	2,325 LB	8.10	18,832.50
0093	6071030000-E	1640	COIR FIBER BAFFLE	3,500 LF	7.00	24,500.00
0094	6071050000-E	SP	*** SKIMMER (1-1/2")	17 EA	750.00	12,750.00
0095	6071050000-E	SP	*** SKIMMER (2")	1 EA	750.00	750.00
0096	6084000000-E	1660	SEEDING & MULCHING	102 ACR	1,400.00	142,800.00
0097	6087000000-E	1660	MOWING	114 ACR	68.00	7,752.00
0098	6090000000-E	1661	SEED FOR REPAIR SEEDING	1,800 LB	6.10	10,980.00
0099	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	5 TON	1,200.00	6,000.00
0100	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	2,400 LB	6.25	15,000.00
0101	6108000000-E	1665	FERTILIZER TOPDRESSING	71.5 TON	875.00	62,562.50
0102	6111000000-E	SP	IMPERVIOUS DIKE	110 LF	75.00	8,250.00
0103	6114500000-N	1667	SPECIALIZED HAND MOWING	40 MHR	55.00	2,200.00
0104	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	150 EA	60.00	9,000.00
0105	6123000000-E	1670	REFORESTATION	18 ACR	2,050.00	36,900.00
0106	6126000000-E	SP	STREAMBANK REFORESTATION	4 ACR	5,100.00	20,400.00
0107	6132000000-N	SP	GENERIC EROSION CONTROL ITEM SUPPLEMENTAL RESPONSE FOR EROSION CONTROL	10 EA	300.00	3,000.00

Contract Item Sheets For C203160

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0108	8245000000-E	425	REINFORCING STEEL (CULVERT)	1,162 LB	5.00	5,810.00
0109	8826000000-E	420	GENERIC CULVERT ITEM CLASS AA CONCRETE (CULVERT)	5.7 CY	2,500.00	14,250.00

Contract Item Sheets For C203160

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0110	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** (7662+38.00-M2-)	Lump Sum LS	120,000.00	120,000.00
0111	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** (7740+96.34-M1-)	Lump Sum LS	40,000.00	40,000.00
0112	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** (7761+14.08-M1-)	Lump Sum LS	220,000.00	220,000.00
0113	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (PIER 1,7662+38.00-M2-)	Lump Sum LS	5,000.00	5,000.00
0114	8105500000-E	411	***,*** DIA DRILLED PIERS IN SOIL (5'-0")	43 LF	2,500.00	107,500.00
0115	8105600000-E	411	***,*** DIA DRILLED PIERS NOT IN SOIL (5'-0")	20 LF	2,500.00	50,000.00
0116	8111000000-E	411	PERMANENT STEEL CASING FOR ***,*** DIA DRILLED PIER (5'-0")	46.9 LF	350.00	16,415.00
0117	8113000000-N	411	SID INSPECTIONS	4 EA	300.00	1,200.00
0118	8115000000-N	411	CSL TESTING	4 EA	1,700.00	6,800.00
0119	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVA- TION AT STATION ***** (7761+14.08-M1-)	Lump Sum LS	5,000.00	5,000.00
0120	8147000000-E	420	REINFORCED CONCRETE DECK SLAB	11,069 SF	50.00	553,450.00
0121	8175000000-E	420	CLASS AA CONCRETE (BRIDGE)	323 CY	800.00	258,400.00
0122	8217000000-E	425	REINFORCING STEEL (BRIDGE)	50,066 LB	1.00	50,066.00
0123	8453000000-E	454	METHOD B DAMPPROOFING	299 SY	20.00	5,980.00
0124	8608000000-E	876	RIP RAP CLASS II (2'-0" THICK)	879 TON	50.00	43,950.00
0125	8622000000-E	876	GEOTEXTILE FOR DRAINAGE	976 SY	2.00	1,952.00
0126	8685000000-E	SP	EPOXY MORTAR REPAIRS	574.2 SF	90.00	51,678.00

Contract Item Sheets For C203160

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0127	8741000000-N	SP	STRUCTURE DRAINAGE SYSTEM AT STA***** (7662+38.00-M2-)	Lump Sum LS	40,000.00	40,000.00
0128	8741000000-N	SP	STRUCTURE DRAINAGE SYSTEM AT STA***** (7761+14.08-M1-)	Lump Sum LS	65,000.00	65,000.00
0129	8860000000-N	SP	GENERIC STRUCTURE ITEM APPROX. 1,292,176 LBS. STRUCTURAL STEEL	Lump Sum LS	2,605,000.00	2,605,000.00
0130	8860000000-N	SP	GENERIC STRUCTURE ITEM APPROX. 565,779 LBS. STRUCTURAL STEEL	Lump Sum LS	1,200,000.00	1,200,000.00
0131	8860000000-N	SP	GENERIC STRUCTURE ITEM PAINTING OF STRUCTURAL STEEL	Lump Sum LS	300,000.00	300,000.00
0132	8860000000-N	SP	GENERIC STRUCTURE ITEM SELF-LUBRICATING EXPANSION BEARING ASSEMBLIES	Lump Sum LS	120,000.00	120,000.00
0133	8860000000-N	SP	GENERIC STRUCTURE ITEM TEMP RR SHORING FOR ABUT 1, STA.7662+38.00-M1-	Lump Sum LS	200,000.00	200,000.00
0134	8860000000-N	SP	GENERIC STRUCTURE ITEM TEMP RR SHORING FOR ABUT 2, STA.7662+38.00-M1-	Lump Sum LS	120,000.00	120,000.00
0135	8867000000-E	SP	GENERIC STRUCTURE ITEM CONCRETE PARAPET	717.6 LF	100.00	71,760.00
0136	8867000000-E	SP	GENERIC STRUCTURE ITEM HP 14X73 STEEL PILES	1,254 LF	75.00	94,050.00
0137	8867000000-E	SP	GENERIC STRUCTURE ITEM METAL RAIL (ALUMINUM)	853.7 LF	105.00	89,638.50
0138	8867000000-E	SP	GENERIC STRUCTURE ITEM METAL RAIL AND WALKWAY	277 LF	400.00	110,800.00
0139	8867000000-E	SP	GENERIC STRUCTURE ITEM PILE EXCAVATION IN SOIL	759 LF	330.00	250,470.00
0140	8867000000-E	SP	GENERIC STRUCTURE ITEM PILE EXCAVATION NOT IN SOIL	429 LF	330.00	141,570.00
0141	8893000000-E	SP	GENERIC STRUCTURE ITEM WATERPROOFING	1,478.6 SY	80.00	118,288.00

Contract Item Sheets For C203160

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0142	8897000000-N	SP	GENERIC STRUCTURE ITEM TIE RODS	16 EA	9,000.00	144,000.00

TOTAL AMOUNT OF BID FOR ENTIRE PROJECT

\$15,738,016.01

0930/Jul05/Q428892.9/D686826182000/E142

Contract No. C203160
County Davidson

Rev. 5-19-11

**EXECUTION OF CONTRACT
NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN CERTIFICATION**

CORPORATION

The Contractor being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with this Contract, that the Contractor has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the Contractor intends to do the work with its own bonafide employees or subcontractors and did not bid for the benefit of another contractor.

By submitting this Execution of Contract, Non-Collusion Affidavit and Debarment Certification, the Contractor is certifying his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF CONTRACTOR

Blythe Construction, Inc.

Full name of Corporation

P.O. Box 31635, Charlotte, NC 28231

Address as Prequalified

Attest

[Signature]
Secretary/Assistant Secretary
Select appropriate title

By

[Signature]
President/Vice President/Assistant Vice President
Select appropriate title

Lawrence G. Schmidt, II

Print or type Signer's name

Alan M. Cahill

Print or type Signer's name

CORPORATE SEAL

AFFIDAVIT MUST BE NOTARIZED

Subscribed and sworn to before me this the

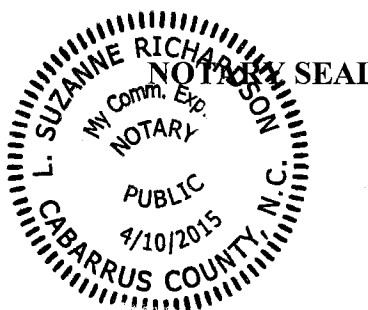
16 day of July 2013

[Signature]
Signature of Notary Public

of Cabarrus County

State of North Carolina

My Commission Expires: 4-10-15



DEBARMENT CERTIFICATION

Conditions for certification:

1. The prequalified bidder shall provide immediate written notice to the Department if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation filed with the Department, or has become erroneous because of changed circumstances.
2. The terms *covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded*, as used in this provision, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. A copy of the Federal Rules requiring this certification and detailing the definitions and coverages may be obtained from the Contract Officer of the Department.
3. The prequalified bidder agrees by submitting this form, that he will not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in NCDOT contracts, unless authorized by the Department.
4. For Federal Aid projects, the prequalified bidder further agrees that by submitting this form he will include the Federal-Aid Provision titled *Required Contract Provisions Federal-Aid Construction Contract (Form FHWA PR 1273)* provided by the Department, without subsequent modification, in all lower tier covered transactions.
5. The prequalified bidder may rely upon a certification of a participant in a lower tier covered transaction that he is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless he knows that the certification is erroneous. The bidder may decide the method and frequency by which he will determine the eligibility of his subcontractors.
6. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this provision. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
7. Except as authorized in paragraph 6 herein, the Department may terminate any contract if the bidder knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available by the Federal Government.

DEBARMENT CERTIFICATION

The prequalified bidder certifies to the best of his knowledge and belief, that he and his principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records; making false statements; or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph b. of this certification; and
- d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- e. Will submit a revised Debarment Certification immediately if his status changes and will show in his bid proposal an explanation for the change in status.

If the prequalified bidder cannot certify that he is not debarred, he shall provide an explanation with this submittal. An explanation will not necessarily result in denial of participation in a contract.

Failure to submit a non-collusion affidavit and debarment certification will result in the prequalified bidder's bid being considered non-responsive.

☐ Check here if an explanation is attached to this certification.

1-17-12
Z-140

Contract No. **C203160**

County (ies): **Davidson**

ACCEPTED BY THE
DEPARTMENT OF TRANSPORTATION

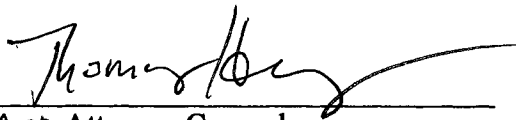


Contract Officer



Date

Execution of Contract and Bonds
Approved as to Form:



Asst. Attorney General

Signature Sheet (Bid - Acceptance by Department) ,

Contract No.
County

C203160
Davidson

Rev 5-17-11

CONTRACT PAYMENT BOND

Date of Payment Bond Execution July 8, 2013

Name of Principal Contractor Blythe Construction, Inc.

Name of Surety: Travelers Casualty and Surety Company of America

Name of Contracting Body: North Carolina Department of Transportation
Raleigh, North Carolina

Amount of Bond: \$15,738,016.01

Contract ID No.: C203160

County Name: Davidson

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL CONTRACTOR (hereafter, PRINCIPAL) and SURETY above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Contracting Body, numbered as shown above and hereto attached:

NOW THEREFORE, if the principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Contract No. C203160
County Davidson

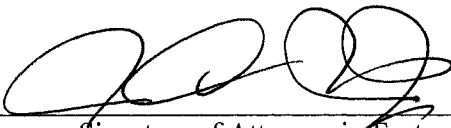
Rev 5-17-11

CONTRACT PAYMENT BOND

Affix Seal of Surety Company

Travelers Casualty and Surety Company of America
Print or type Surety Company Name

By Joseph D. Johnson, Jr.
Print, stamp or type name of Attorney-in-Fact


Signature of Attorney-in-Fact


Signature of Witness

JoAnn H. Bebout
Print or type Signer's name

801 N. Orange Avenue, Suite 510
Orlando, Florida 32801
Address of Attorney-in-Fact

Contract No.
County

C203160
Davidson

Rev 5-17-11

CONTRACT PAYMENT BOND

CORPORATION

SIGNATURE OF CONTRACTOR (Principal)

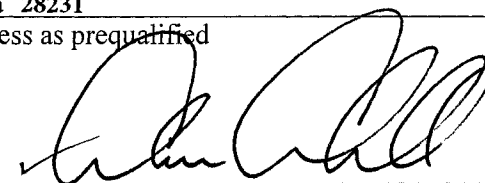
Blythe Construction, Inc.

Full name of Corporation

P. O. Box 31635, Charlotte, North Carolina 28231

Address as prequalified

By



Signature of President, ~~Vice President, Assistant Vice President~~
Select appropriate title

Alan M. Cahill, President & CEO

Print or type Signer's name

Affix Corporate Seal

Attest



Signature of ~~Secretary~~, Assistant Secretary
Select appropriate title

Lawrence G. Schmidt, II, Asst. Sec.

Print or type Signer's name



POWER OF ATTORNEY

Farmington Casualty Company
 Fidelity and Guaranty Insurance Company
 Fidelity and Guaranty Insurance Underwriters, Inc.
 St. Paul Fire and Marine Insurance Company
 St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
 Travelers Casualty and Surety Company
 Travelers Casualty and Surety Company of America
 United States Fidelity and Guaranty Company

Attorney-In Fact No. 223941

Certificate No. 005389018

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Todd L. Johnson, Joseph D. Johnson Jr., Francis T. O'Reardon, and Joseph D. Johnson III

of the City of Orlando, State of Florida, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

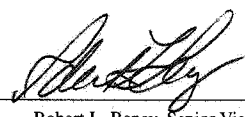
IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 4th day of March, 2013.

Farmington Casualty Company
 Fidelity and Guaranty Insurance Company
 Fidelity and Guaranty Insurance Underwriters, Inc.
 St. Paul Fire and Marine Insurance Company
 St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
 Travelers Casualty and Surety Company
 Travelers Casualty and Surety Company of America
 United States Fidelity and Guaranty Company



State of Connecticut
 City of Hartford ss.

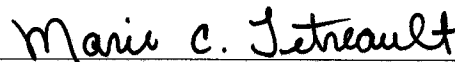
By: 

Robert L. Raney, Senior Vice President

On this the 4th day of March, 2013, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
 My Commission expires the 30th day of June, 2016.




 Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 8th day of July, 20 13.

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER


Kevin E. Hughes, Assistant Secretary



To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at www.travelersbond.com. Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.

Contract No. C203160
County Davidson

Rev 5-17-11

CONTRACT PERFORMANCE BOND

Date of Performance Bond Execution: July 8, 2013

Name of Principal Contractor: Blythe Construction, Inc.

Name of Surety: Travelers Casualty and Surety Company of America

Name of Contracting Body: North Carolina Department of Transportation
Raleigh, North Carolina

Amount of Bond: \$15,738,016.01

Contract ID No.: C203160

County Name: Davidson

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL CONTRACTOR (hereafter, PRINCIPAL) and SURETY above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Contracting Body, numbered as shown above and hereto attached:

NOW THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Contracting Body, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Contract No.
County

C203160
Davidson

Rev 5-17-11

CONTRACT PERFORMANCE BOND

Affix Seal of Surety Company

Travelers Casualty and Surety Company of America

Print or type Surety Company Name

By Joseph D. Johnson, Jr.

Print, stamp or type name of Attorney-in-Fact



Signature of Attorney-in-Fact



Signature of Witness

JoAnn H. Bebout

Print or type Signer's name

801 N. Orange Avenue, Suite 510
Orlando, Florida 32801

Address of Attorney-in-Fact

Contract No.
County

C203160

Davidson

Rev 5-17-11

CONTRACT PERFORMANCE BOND

CORPORATION

SIGNATURE OF CONTRACTOR (Principal)

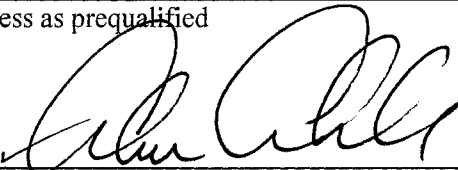
Blythe Construction, Inc.

Full name of Corporation

P. O. Box 31635, Charlotte, North Carolina 28231

Address as prequalified

By



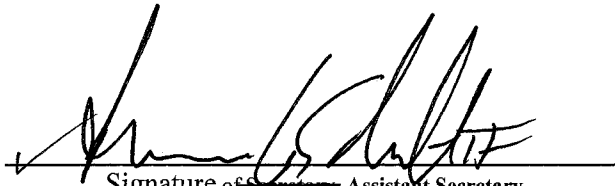
Signature of President, ~~Vice President, Assistant Vice President~~
Select appropriate title

Alan M. Cahill, President & CEO

Print or type Signer's name

Affix Corporate Seal

Attest



Signature of ~~Secretary~~, Assistant Secretary
Select appropriate title

Lawrence G. Schmidt, II, Asst. Sec.

Print or type Signer's name



POWER OF ATTORNEY

Farmington Casualty Company
 Fidelity and Guaranty Insurance Company
 Fidelity and Guaranty Insurance Underwriters, Inc.
 St. Paul Fire and Marine Insurance Company
 St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
 Travelers Casualty and Surety Company
 Travelers Casualty and Surety Company of America
 United States Fidelity and Guaranty Company

Attorney-In Fact No. 223941

Certificate No. 005389017

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Todd L. Johnson, Joseph D. Johnson Jr., Francis T. O'Reardon, and Joseph D. Johnson III

of the City of Orlando, State of Florida, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 4th day of March, 2013.

Farmington Casualty Company
 Fidelity and Guaranty Insurance Company
 Fidelity and Guaranty Insurance Underwriters, Inc.
 St. Paul Fire and Marine Insurance Company
 St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
 Travelers Casualty and Surety Company
 Travelers Casualty and Surety Company of America
 United States Fidelity and Guaranty Company



State of Connecticut
 City of Hartford ss.

By: Robert L. Raney
 Robert L. Raney, Senior Vice President

On this the 4th day of March, 2013, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
 My Commission expires the 30th day of June, 2016.



Marie C. Tetreault
 Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 8th day of July, 20 13.

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Kevin E. Hughes, Assistant Secretary



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