



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT McCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

June 11, 2013

Addendum No. 1

RE: Contract ID C203160

WBS # 49010.3.STR01T4A

F. A. # FRA-FR-HSR-0006-10-01-00

Davidson County (C-4901A)

NS/NCRR Mainline Bowers To Lake Railroad Roadbed (MP 309.8 To MP 314.0)

June 18, 2013 Letting

To Whom It May Concern:

Reference is made to the plans and proposal form furnished to you on this project.

The following revisions have been made to the Railroad Roadbed and Cross-Section plans:

Sheet	Revisions
1A	Index revised for sheet 2L to be "CP "Lake" Detail" instead of "Asphalt Underlayment Detail."
2	Subsurface Drain Detail added, 8'-0" MAX dimension added and 6" compacted subballast label revised to 9" for typical sections #1 - #3, revised notes 3, 7, and 8, and cross slope references of 30:1 changed to 40:1.
2A	8'-0" MAX dimension added to typical section #6, 6" compacted subballast label revised to 9", Note 5 removed.
2B	8'-0" MAX dimension added to typical sections #8 and #9, 6" compacted subballast label revised to 9", Note 5 removed.
2C	8'-0" MAX dimension added to typical section #10, 6" compacted subballast label revised to 9", Note 4 revised.
2I	Revised head ditch, moved to station 7687+50 to keep impacts within ROW. Rip Rap pads added to the ditches.
2L	Detail sheet title revised to CP "Lake" Detail, subsurface drain and outlet pipes added, inflection point labels added for turnout material laydown pad, revised subsurface drain detail.
3D	Revised pavement removal table.
7	Subsurface drain and pipe outlets added between stations 7612+00 and 7619+00 (LT).

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND DEVELOPMENT UNIT
1591 MAIL SERVICE CENTER
RALEIGH NC 27699-1591

TELEPHONE: 919-707-6900
FAX: 919-250-4119
WEBSITE: www.ncdot.gov

LOCATION:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

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Sheet	Revisions
8	Subsurface drain and pipe outlets added between stations 7619+00 and 7625+00 (LT).
12	Revised head ditch, moved to station 7687+50 to keep impacts within ROW. Rip Rap pads added to the ditches. Labels added to reflect added rip rap pads.
15	Subsurface drain and pipe outlets added between stations 7719+00 and 7720+50 (LT).
16	Subsurface drain and pipe outlets added between stations 7733+00 and 7740+22 (LT) and between stations 7740+73 and 7745+00 (LT).
17	Subsurface drain and pipe outlets added between stations 7754+00 and 7759+00 (LT).
18	Subsurface drain and pipe outlets added between stations 7759+00 and 7759+76 (LT).
20	Revised plan sheet to show private grade crossing to remain open.
EC-10	New Clearing and Grubbing measures added due to revised head ditch.
EC-15	Grade crossing pavement removal deleted.
EC-23	New Erosion Control measures added due to revised head ditch.
EC-28	Grade crossing pavement removal deleted.
CP-02	Revised to show Private grade crossing left in place.
CP-03	Updated construction phasing so that construction of the trk 2 side of the Rich Fork Creek and Abbotts Creek Bridges is Step 1. Revised to show Private grade crossing left in place.
CP-04	Updated the construction phasing so that track removal in Step 1 includes Sta. 7759+79 to 7775+81. Revised to show Private grade crossing left in place.
CP-05	Revised to show private grade crossing left in place.
X-16 thru X-30, X-36 thru X-47, X-70, X-71, X-77 thru X-82, X-85, X-86, X-94, X-97, X-98	Revised per typical section changes

Please delete the above listed sheets in your plans and staple the revised sheets thereto.

The following revision has been made to the Structure plans:

On Sheet No. S-39 two notes were added regarding disposition of materials and lead paint. Please void Sheet No. S-39 in your plans and staple the revised Sheet No. S-39 thereto.

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The following revisions have been made to the proposal:

On Page No. 31 some revisions were made to the "Description and Designation" paragraph of the section entitled "Railroad Insurance". Please void Page No. 31 in your proposal and staple the revised Page No. 31 thereto.

On Page No. 38 a new paragraph has been added and the last paragraph has been modified in the section entitled "Contractor Furnished Two Way Radios". Please void Page No. 38 in your proposal and staple the revised Page No. 38 thereto.

On Page Nos. 55 and 57 languages has been added to the project special provision entitled "Field Office (Lump Sum)" to require two utility vehicles as part of this pay item. Please void Page Nos. 55 and 57 in your proposal and staple the revised Page Nos. 55 and 57 thereto.

New Page No. 57A has been added to include the project special provision entitled "Notes To Contractor". Please staple new Page No. 57A after revised Page No. 57.

The Table of Contents has been revised to reflect the addition of the above noted special provision. Please void the Table of Contents in your proposal and staple the revise Table of Contents thereto.

On Page No. 103 the last paragraph of the project special provision entitled "Welded Steel Pipe" has been revised. Please void Page No. 103 in your proposal and staple the revised Page No. 103 thereto.

On Page No. 108 a paragraph was added to section "310-3 Pipe Installation" of the project special provision entitled "Bituminous Coated Corrugated Metal Pipe (BCCMP)". Please void Page No. 108 in your proposal and staple the revised Page No. 108 thereto.

On Page No. 114 the words "(where applicable)" was added to the first paragraph under "Construction Methods" of the project special provision entitled "Subsurface Drain". Please void Page No. 114 in your proposal and staple the revised Page No. 114 thereto.

Page No. R-1 has been revised to indicate that permits have been received. Please void Page No. R-1 in your proposal and staple the revised Page No. R-1 thereto.

New Page Nos. R-2 thru R-62 have been added to include the 404 and 401 permits required for the project. Please staple New Page Nos. R-2 thru R-62 in your proposal after revised Page No. R-1.

On the item sheets the following pay item quantities have been revised:

<u>Item</u>	<u>Description</u>	<u>Old Quantity</u>	<u>New Quantity</u>
37-2700000000-N-815	Subdrain Pipe Outlet	3 EA	8 EA
38-2077000000E-815	6" Outlet Pipe	150 LF	295 LF
42-2484000000-E-SP	Subsurface Drain	1,300 LF	3,080 LF
48-3628000000-E-876	Rip Rap, Class I	2,425 TON	2,440 TON
51-3656000000-E-876	Geotextile For Drainage	8,365 SY	8,400 SY

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53-3885000000-E-SP

Sub-Ballast

54,400 TON

57,100 TON

The Contractor's bid must be based on these revised pay item quantities. The contract will be prepared accordingly.

The Expedite File has been updated to reflect these revisions. Please download the Expedite Addendum File and follow the instructions for applying the addendum. Bid Express will not accept your bid unless the addendum has been applied.

Sincerely,



R. A. Garris, PE
Contract Officer

RAG/jag
Attachments

cc: Mr. Ron Hancock, PE
Mr. Pat Ivey, PE
Ms. D. M. Barbour, PE
Mr. J. V. Barbour, PE
Mr. Paul Worley, CPM
Mr. R.E. Davenport, PE
Ms. Lori Strickland
Project File (2)

Mr. Ray Arnold, PE
Ms. Natalie Roskam, PE
Mr. Ronnie Higgins
Mr. Larry Strickland
Ms. Marsha Sample
Ms. Penny Higgins
Ms. Jaci Kincaid

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PROPOSAL ITEM SHEET AND SIGNATURE SHEET

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

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.

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.

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

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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	Pay Unit
Field Office	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.

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NOTES TO CONTRACTOR:

1. NCRB 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 NCRB 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.

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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

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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) 1/2 inch diameter galvanized bolts. Culverts 48 inches and larger require 24 inch wide bands with a minimum of four (4) 1/2 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	Pay Unit
__" B.C.C.M.P. Pipe Culverts, " Thick	Linear Foot

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.

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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

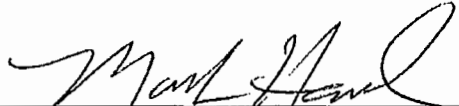
Further Information:

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.



(PERMITTEE) 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.


per _____
(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.

(TRANSFEEE)

(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-erodable 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:

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.

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>.

UNITED STATES OF AMERICA DEPARTMENT OF THE ARMY ENGINEERING CENTER FORT BELLEVILLE, ILLINOIS 62205-4399		
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	
<input checked="" type="checkbox"/> INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
<input type="checkbox"/> PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
<input type="checkbox"/> PERMIT DENIAL	C	
<input type="checkbox"/> APPROVED JURISDICTIONAL DETERMINATION	D	
<input type="checkbox"/> 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/cecwbo/reg> or Corps regulations at 33 CFR Part 33J.

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

<p>If you have questions regarding this decision and/or the appeal process you may contact: District Engineer, Wilmington Regulatory Division, Attn: <u>John Thomas</u> <u>69 Darlington Avenue</u> <u>Wilmington, North Carolina 28403</u></p>	<p>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</p>
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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.

<p>_____ Signature of appellant or agent.</p>	<p>Date:</p>	<p>Telephone number:</p>
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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

Division of Water Quality
Charles Wakild, P. E.
Director

Pat McCrory
Governor

John Skvarta, 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

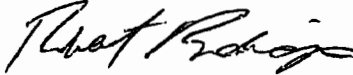
Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000 with ADDITIONAL CONDITIONS for Proposed improvements to Bowers to Lake Rail in Davidson County, Federal Aid Project No. FR-HSR-00S(681), State Project No. 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 Militscher, 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

One
North Carolina
Naturally

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															
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS						SURFACE WATER IMPACTS						
			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 Permanent (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	7678+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	-
TOTALS:			3.13	0.00	0.02	0.84	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

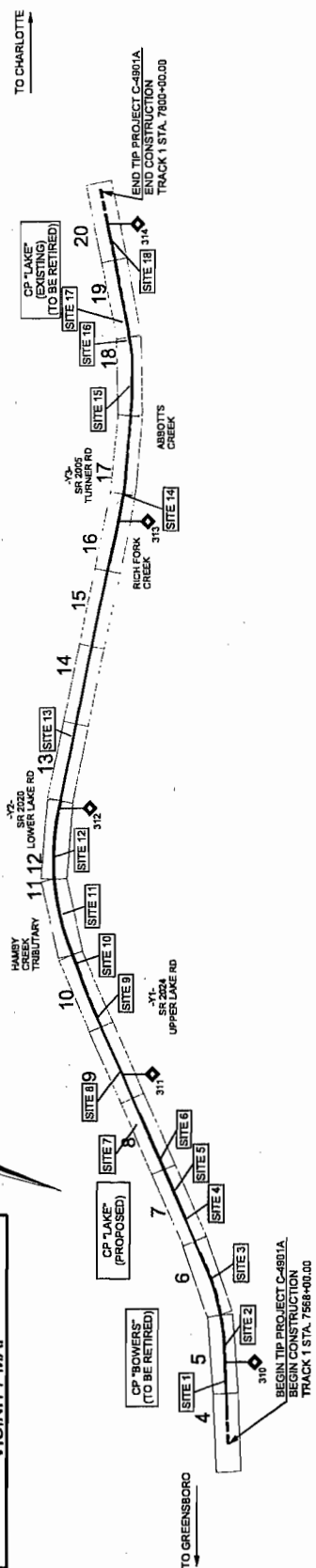
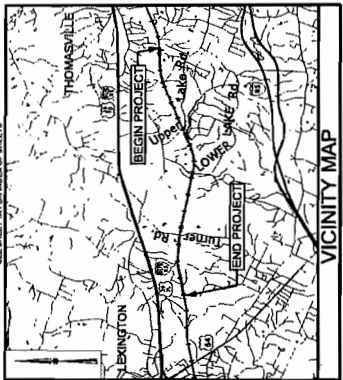
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BOWERS TO LAKE GRADE SEPARATION
AND DOUBLETRACK PROJECT
C-4901 A/D
OF 4/25/2013

STATE	NC	PROJECT NUMBER	C-4901A
CITY		DATE	1
DESIGNER	49010.1.STR03T1B	SCALE	P.E.
CLIENT	49010.2.STR02C4901	ROW	
	49010.3.STR0114A	UTIL. & CONST.	



NCDOT
RAIL DIVISION
DAVIDSON COUNTY

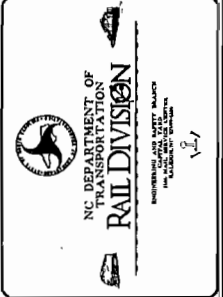
PROJECT TITLE: NCR/NS MAINLINE BOWERS TO LAKE RAILROAD ROADBED
(MP 309.8 TO MP 314.0)
TYPE OF WORK: GRADING, DRAINAGE, STRUCTURE



WETLAND AND STREAM IMPACTS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWINGS
DATE: MARCH 12, 2013



RAIL ENGINEER	STRUCTURE
HYDRAULICS ENGINEER	STRUCTURE

Prepared in the Office of: HNTB HNTB NORTH CAROLINA, P.C. 1000 North Tryon Street, Suite 200 Raleigh, NC 27601 NC License No: E-15524	RAIL PROJECT ANGEER COREY VERNIER, P.E. RAIL PROJECT ANGEER ENRICO ROQUE, P.E. RAIL PROJECT ANGEER DAVID HAWKINS, P.E. STRUCTURE PROJECT ANGEER JAMES BYRDE, P.E. STRUCTURE PROJECT ANGEER JASON ORTHNER, P.E. STRUCTURE PROJECT ANGEER
RIGHT OF WAY DATE: AUGUST 2012	LETTING DATE: JUNE 2013

PROJECT LENGTH LENGTH OF RAIL TIP PROJECT: 4.302 MILES LENGTH OF STRUCTURES TIP PROJECT: 0.092 MILES TOTAL LENGTH OF TIP PROJECT: 4.394 MILES
GRAPHIC SCALES PLANS: 1" = 100' PROFILE (HORIZONTAL): 1" = 50' PROFILE (VERTICAL): 1" = 20'

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

TIP PROJECT: C-4901A

CONTRACT: C203160

Addendum No. 1

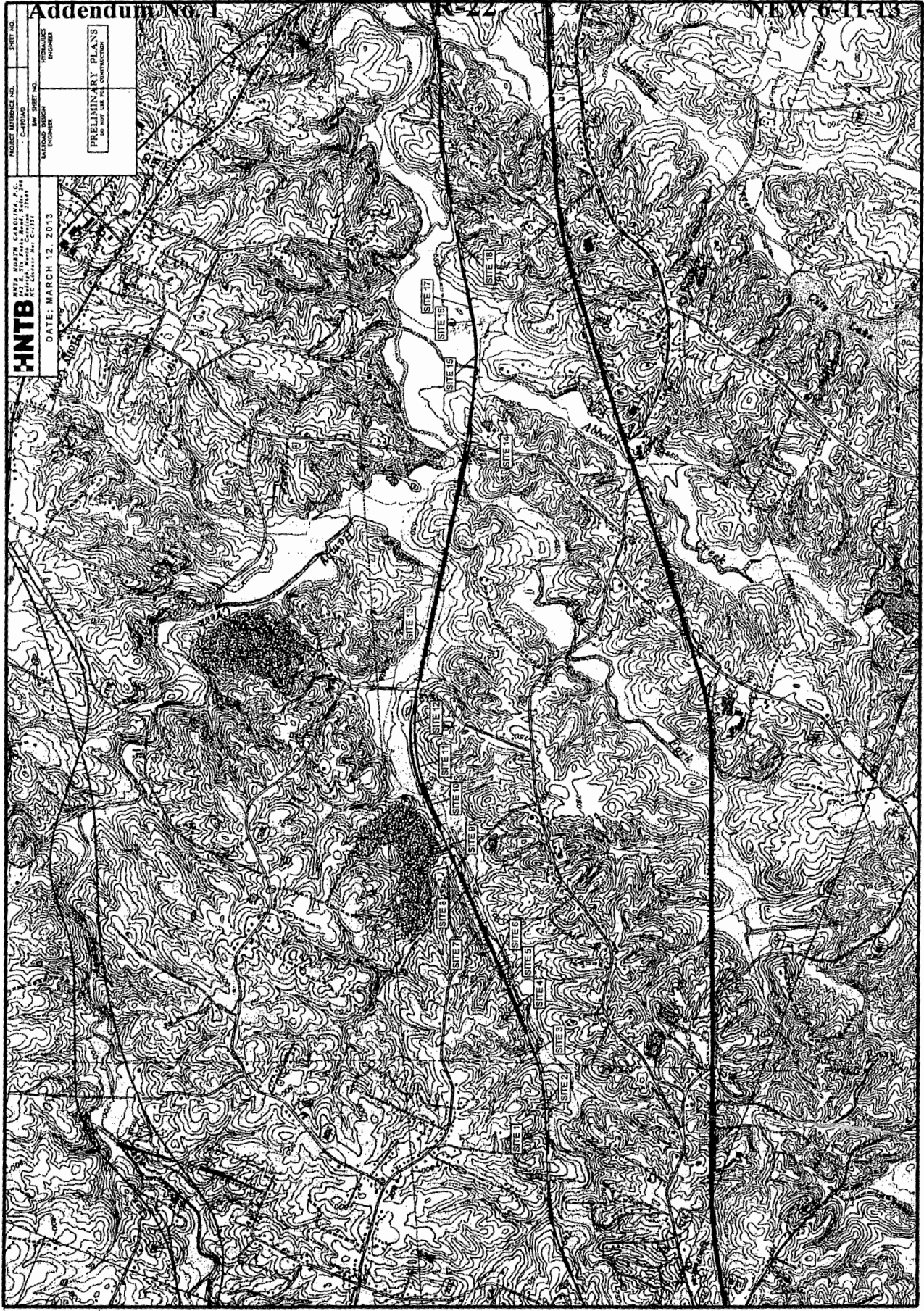
R-22

NEW 6-11-13

PROJECT REFERENCE NO.	SHEET NO.
PROJECT NAME	DATE
DESIGNER	SCALE
DATE: MARCH 12, 2013	

HNTB
 HNTB ENGINEERING, INC.
 1000 EAST 17TH AVENUE, SUITE 200
 DENVER, COLORADO 80202
 PHONE: (303) 733-8800
 FAX: (303) 733-8801
 WWW.HNTB.COM

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION



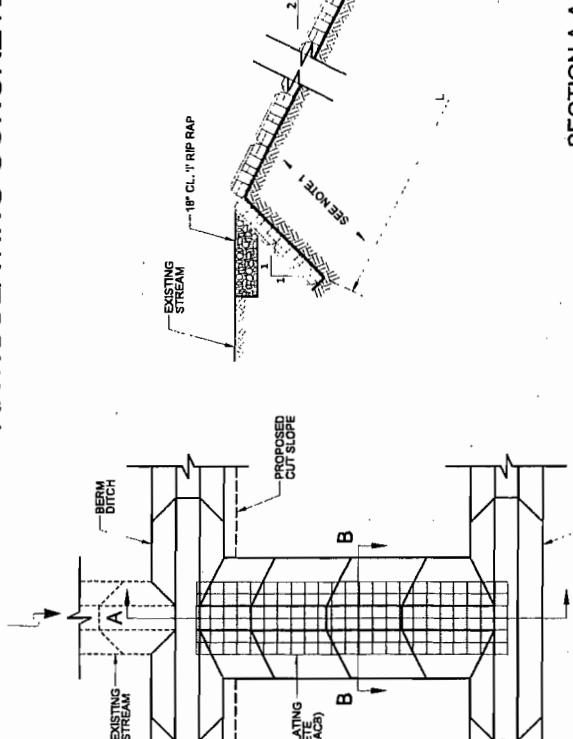
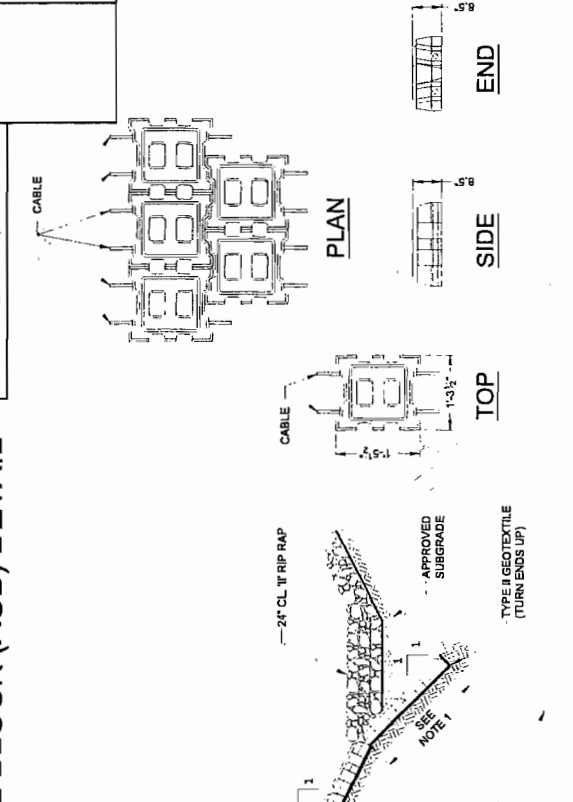
0248DEL_P100
 0001ADD_P100

HNTB HNTB GROUP, INC.
1000 WEST 10TH AVENUE, SUITE 200
DENVER, COLORADO 80202
TEL: 303.733.1100 FAX: 303.733.1101
WWW.HNTB.COM

PROJECT REFERENCE NO. C-490A
BY SHEET NO. NW
SHEET NO. 20
HYDRAULIC ENGINEER

DATE: MAY 3, 2013

ARTICULATING CONCRETE BLOCK (ACB) DETAIL



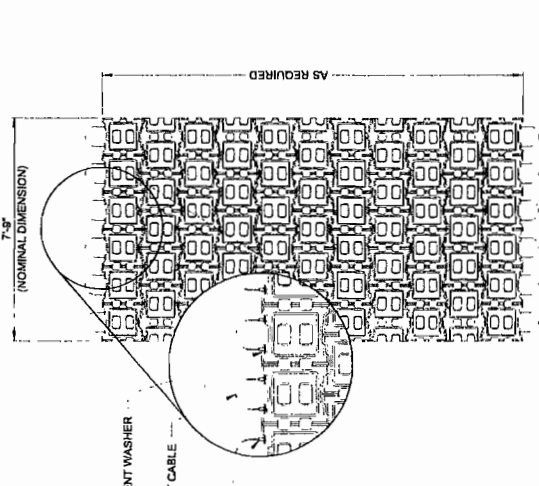
SECTION A-A
NOT TO SCALE

SECTION B-B
NOT TO SCALE

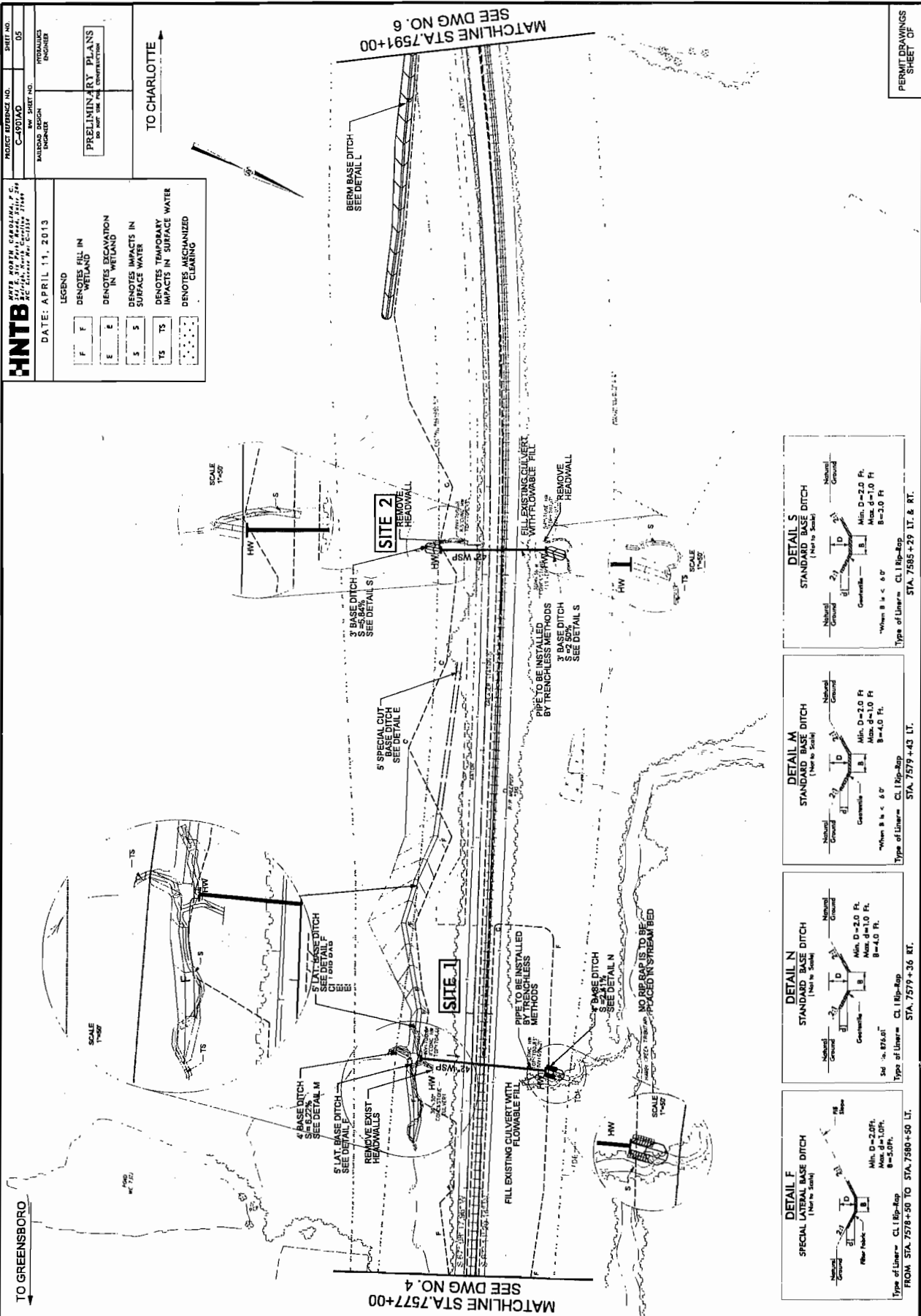
LOCATION	B	MIN. D	MIN. L	MIN. A (SY)	MIN. A (SY)	GEO. (SY)
M1- STA. 7608+09 (LT)	2.5'	2.0'	32.0'	27.6'	34.0'	
M1- STA. 7678+72 (RT)	2.5'	2.0'	24.8'	21.4'	27.0'	

MIN. LENGTH L INCLUDES TOP AND TOE EMBEDMENT.
A = AREA (SY) OF ACB REVETMENT
GEO. = TYPE II GEOTEXTILE (SY)

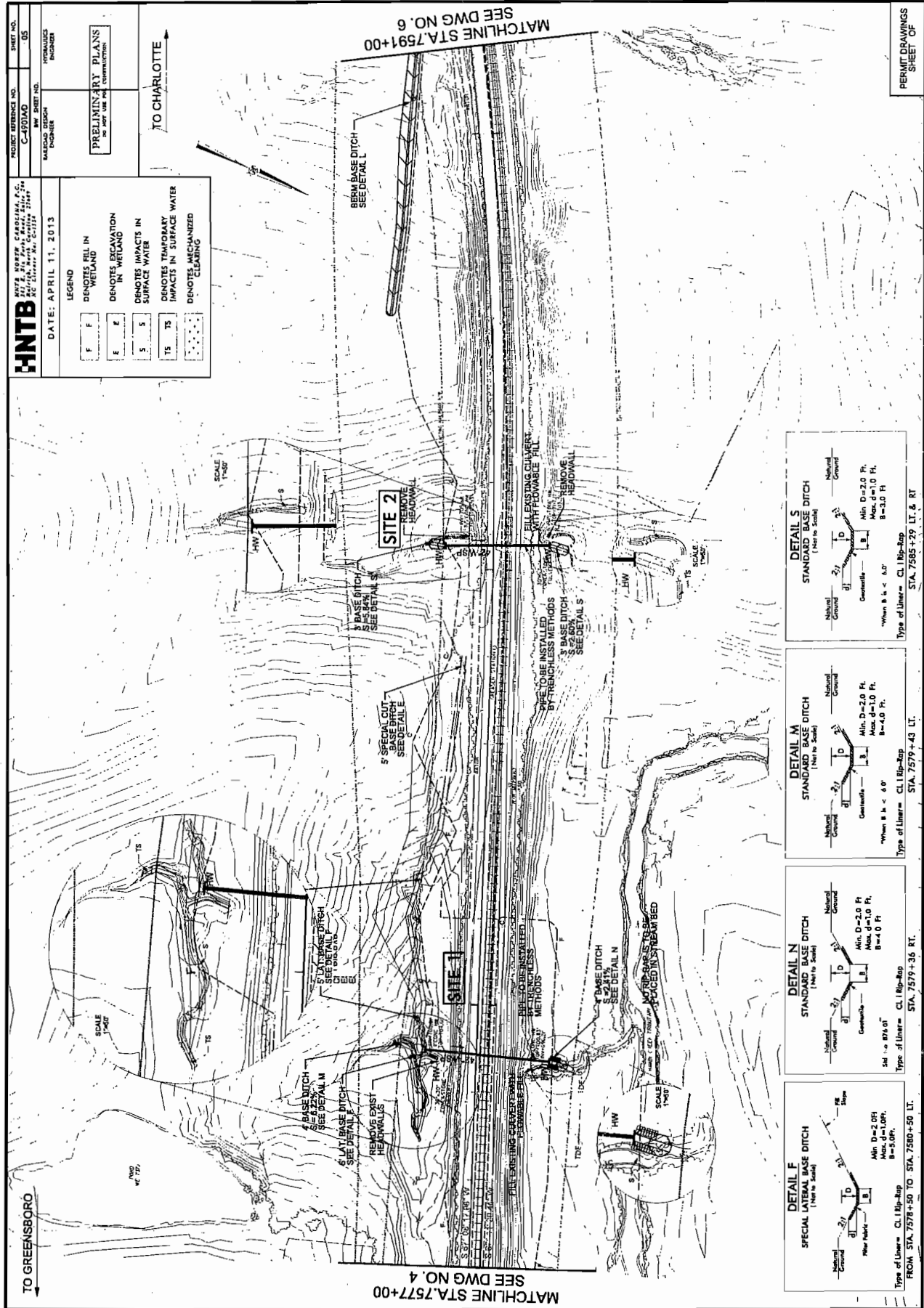
NOTES:
1. DETERMINATION DETAILS AT THE TOP AND TOE AREAS OF THE ARMORING CAN VARY DEPENDING ON SPECIFIC SITE CONDITIONS. INCLUDE STANDARD REQUIREMENTS.
2. BLOCK MINIMUM UNLESS ADDITIONAL OR LESS EMBEDMENT IS APPROVED BY THE ENGINEER OF RECORD.



PERMIT DRAWINGS
SHEET OF

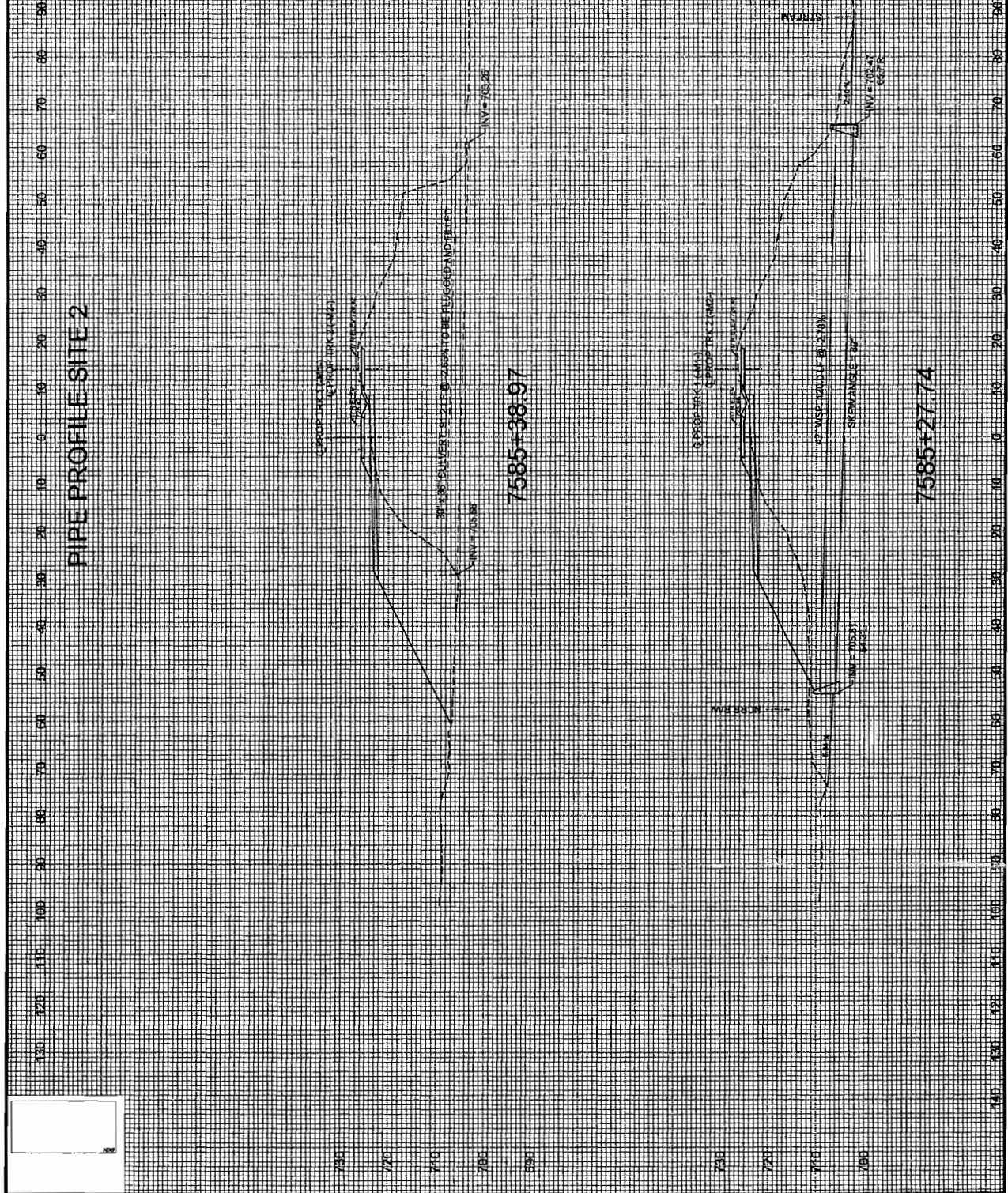


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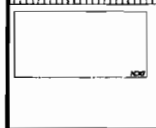


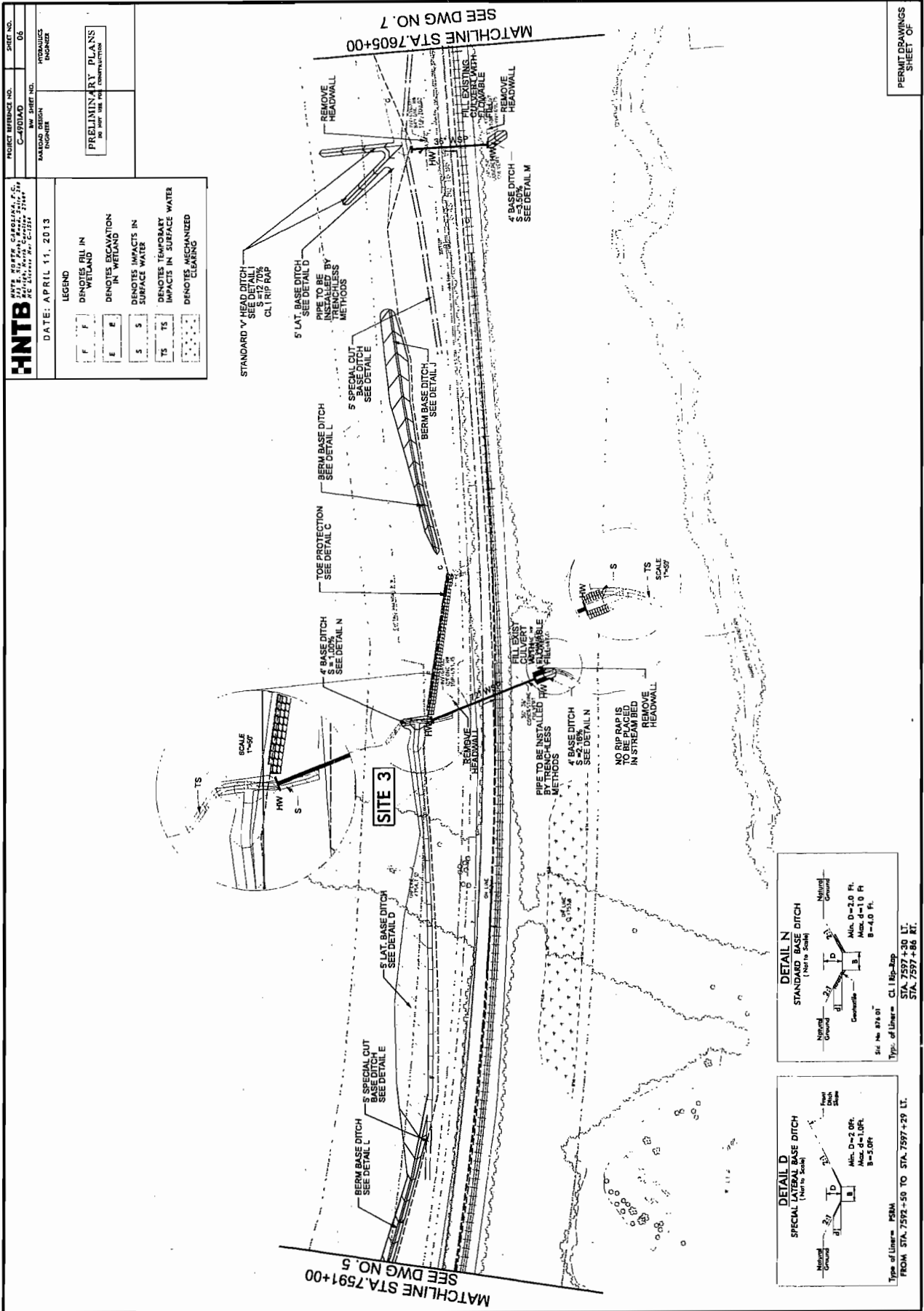
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PROJ. REFERENCE NO.
110 115 120 125 130 135 140 145 150
SHEET NO. 1

PIPE PROFILE SITE 2



PERMIT DRAWING
SHEET OF





PROJECT REFERENCE NO. C-4701AD	SHEET NO. 06
RAZED/DISIGN TOGETHER	HYDRAULICS ENGINEER

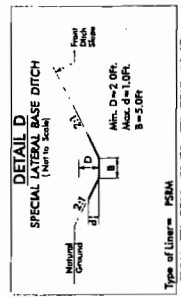
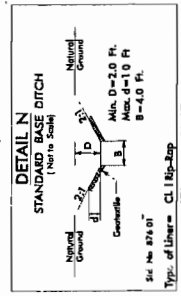
HNTB
HYDRAULIC ENGINEERS, INC.
731 E. 10th Ave., Suite 200
Denver, CO 80202
TEL: 303.733.1100
FAX: 303.733.1101
WWW.HNTB.COM

DATE: APRIL 11, 2013

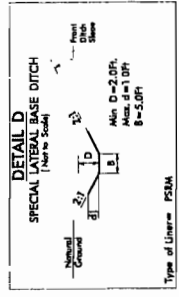
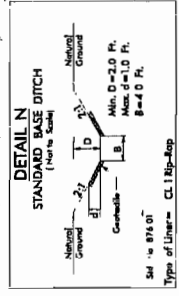
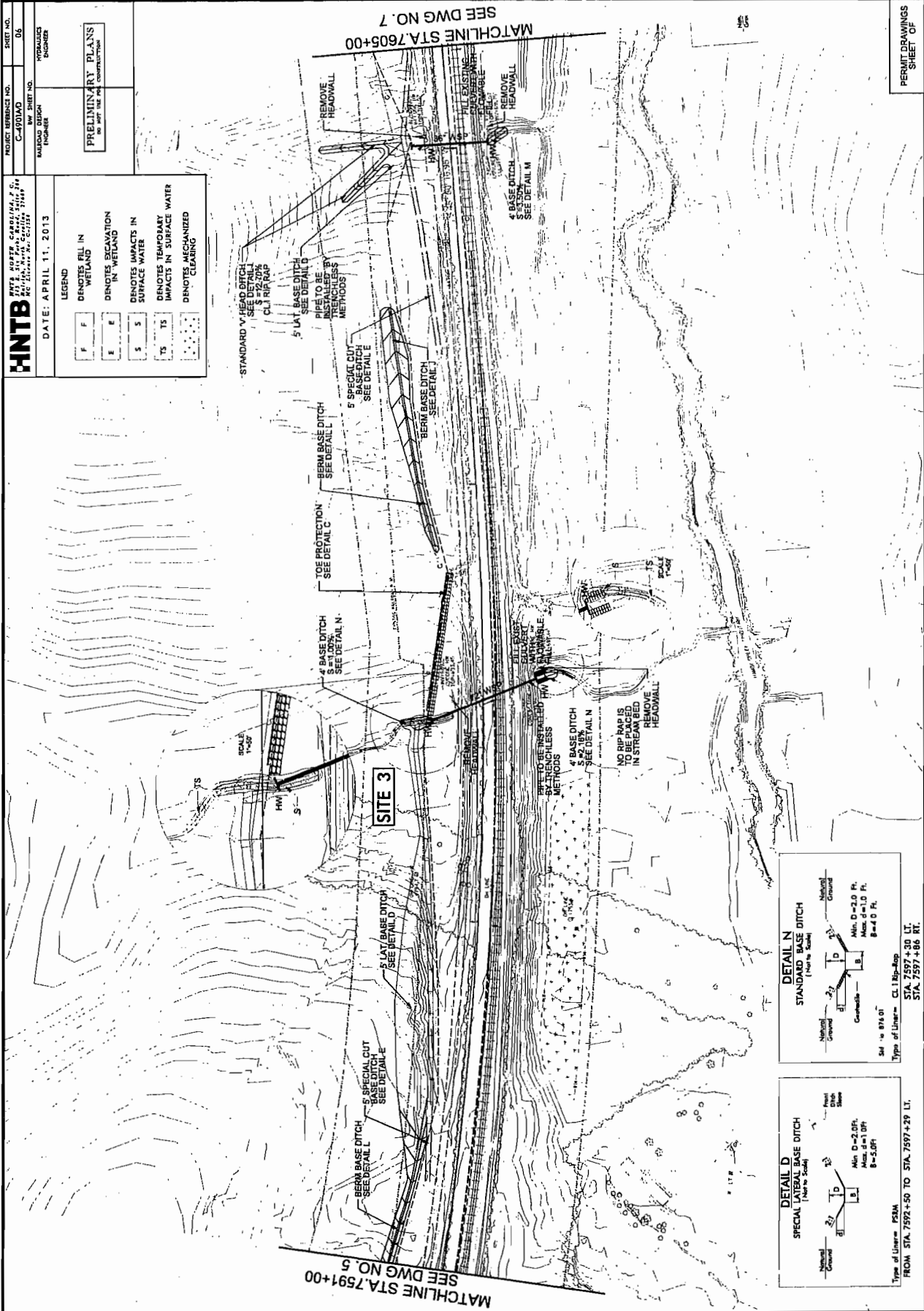
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

LEGEND

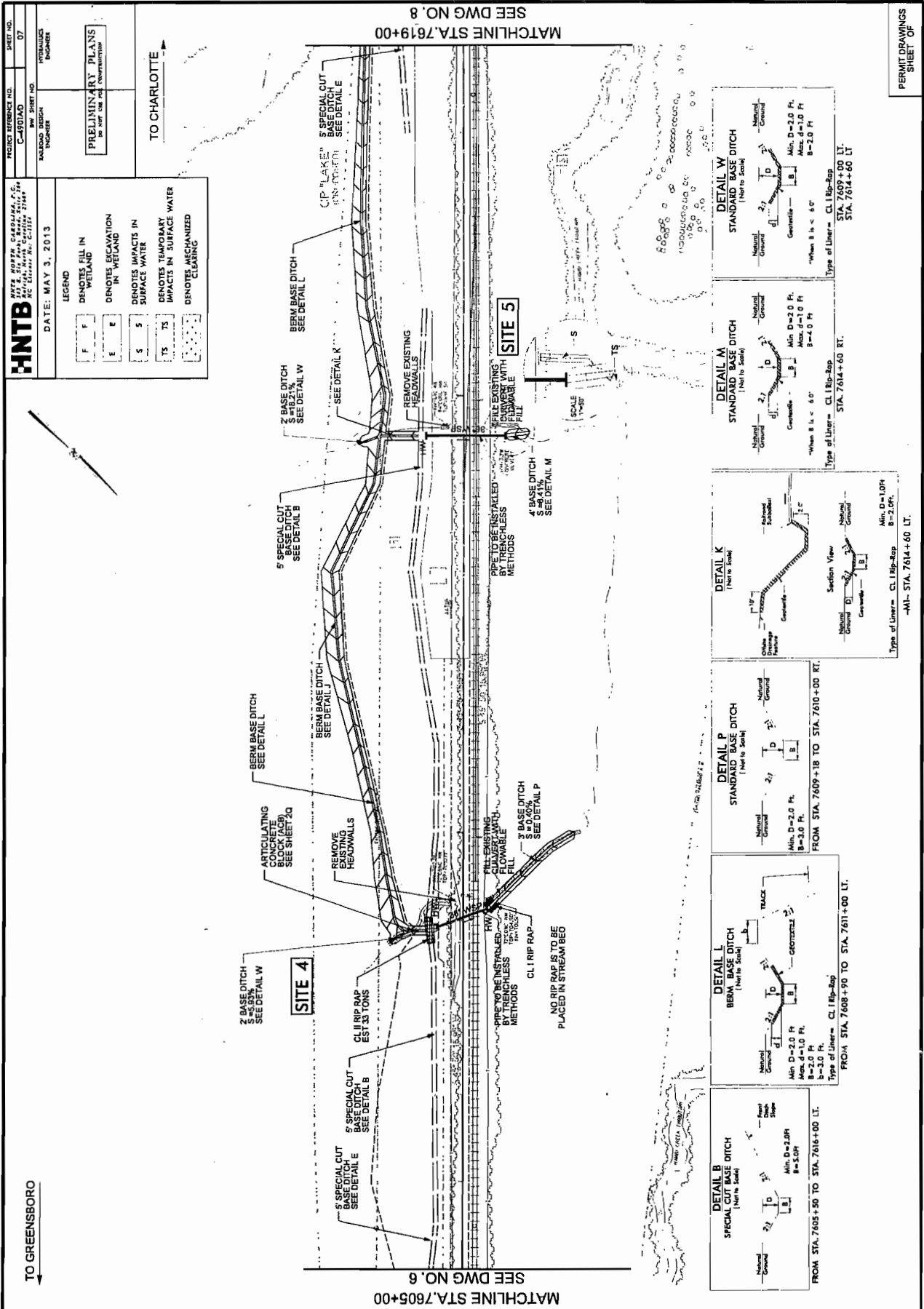
- F DENOTES FILL IN WETLAND
- E DENOTES EXCAVATION IN WETLAND
- S DENOTES IMPACTS IN SURFACE WATER
- TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- TS DENOTES MECHANIZED CLEARING



PERMIT DRAWINGS
SHEET OF



PERMIT DRAWINGS
SHEET OF



HNTB
HNTB ENGINEERING, INC.
101 E. 10th Street, Suite 200
Charlotte, NC 28202
Tel: 704.376.7000
Fax: 704.376.7001
www.hntb.com

PROJECT REFERENCE NO. C-4970AD
SHEET NO. 07
DATE: MAY 3, 2013
HYDRAULIC DESIGN ENGINEER

LEGEND
 F DENOTES FILL IN WETLAND
 E DENOTES EXCAVATION IN WETLAND
 S DENOTES IMPACTS IN SURFACE WATER
 TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 [Symbol] DENOTES MECHANIZED CLEARING

TO GREENSBORO

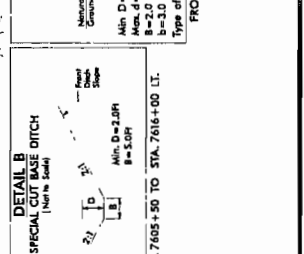
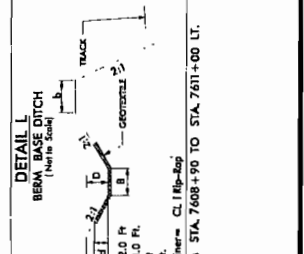
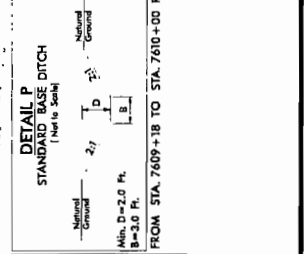
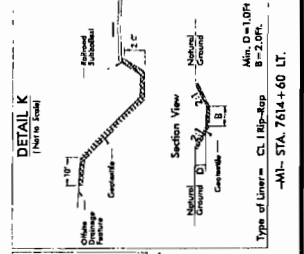
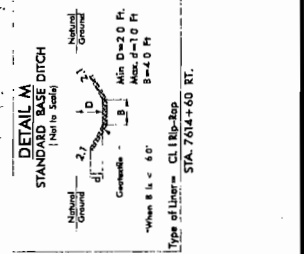
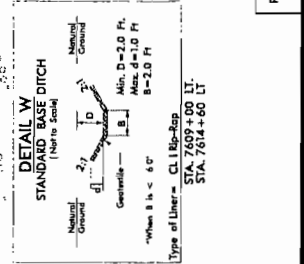
TO CHARLOTTE

SEE DWG NO. 8

SEE DWG NO. 6

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWINGS
SHEET OF



SITE 4

SITE 5

SITE 6

2' BASE DITCH
S=4.00%
SEE DETAIL W

5' SPECIAL CUT
BASE DITCH
SEE DETAIL B

CL II RIP RAP
EST. 33 TONS

3' BASE DITCH
S=0.40%
SEE DETAIL P

4' BASE DITCH
S=4.1%
SEE DETAIL M

5' SPECIAL CUT
BASE DITCH
SEE DETAIL K

BERM BASE DITCH
SEE DETAIL L

2' BASE DITCH
SEE DETAIL W

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

BERM BASE DITCH
SEE DETAIL W

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

ARTICULATING CONCRETE CURBS

REMOVE EXISTING HEADWALLS

REMOVE EXISTING HEADWALLS

REMOVE EXISTING HEADWALLS

REMOVE EXISTING HEADWALLS

REMOVE EXISTING HEADWALLS

REMOVE EXISTING HEADWALLS

REMOVE EXISTING HEADWALLS

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REMOVE EXISTING HEADWALLS

REMOVE EXISTING HEADWALLS

REMOVE EXISTING HEADWALLS

REMOVE EXISTING HEADWALLS

REMOVE EXISTING HEADWALLS

2' BASE DITCH
S=4.00%
SEE DETAIL W

5' SPECIAL CUT
BASE DITCH
SEE DETAIL B

CL II RIP RAP
EST. 33 TONS

3' BASE DITCH
S=0.40%
SEE DETAIL P

4' BASE DITCH
S=4.1%
SEE DETAIL M

5' SPECIAL CUT
BASE DITCH
SEE DETAIL K

BERM BASE DITCH
SEE DETAIL L

2' BASE DITCH
SEE DETAIL W

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

BERM BASE DITCH
SEE DETAIL W

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

2' BASE DITCH
S=4.00%
SEE DETAIL W

5' SPECIAL CUT
BASE DITCH
SEE DETAIL B

CL II RIP RAP
EST. 33 TONS

3' BASE DITCH
S=0.40%
SEE DETAIL P

4' BASE DITCH
S=4.1%
SEE DETAIL M

5' SPECIAL CUT
BASE DITCH
SEE DETAIL K

BERM BASE DITCH
SEE DETAIL L

2' BASE DITCH
SEE DETAIL W

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

BERM BASE DITCH
SEE DETAIL W

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

2' BASE DITCH
S=4.00%
SEE DETAIL W

5' SPECIAL CUT
BASE DITCH
SEE DETAIL B

CL II RIP RAP
EST. 33 TONS

3' BASE DITCH
S=0.40%
SEE DETAIL P

4' BASE DITCH
S=4.1%
SEE DETAIL M

5' SPECIAL CUT
BASE DITCH
SEE DETAIL K

BERM BASE DITCH
SEE DETAIL L

2' BASE DITCH
SEE DETAIL W

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

BERM BASE DITCH
SEE DETAIL W

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

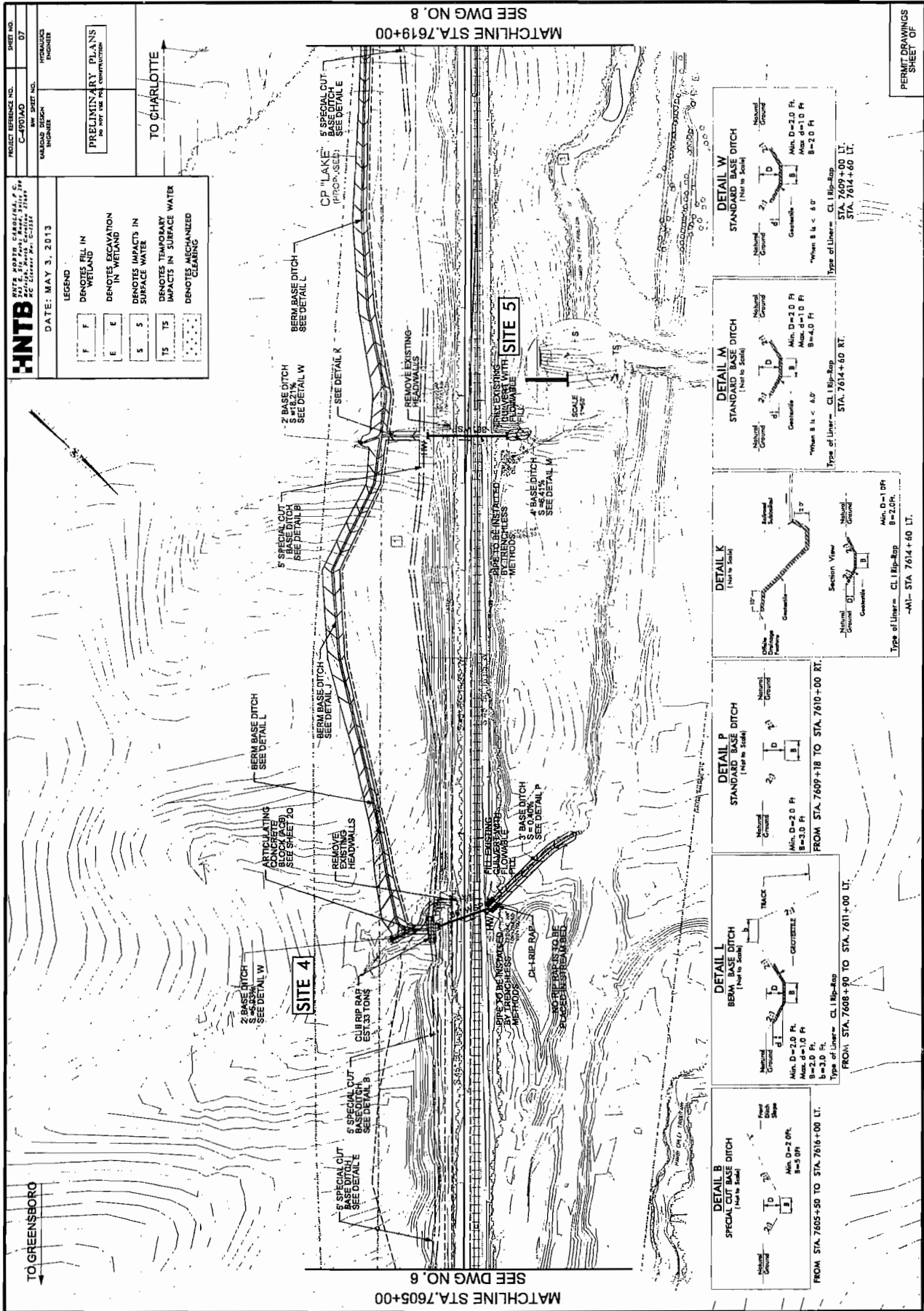
5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E

5' SPECIAL CUT
BASE DITCH
SEE DETAIL E



HNTB
 HNTB CONSULTANTS, INC.
 10000 W. BRIDGEWAY, SUITE 200
 GREENSBORO, NC 27409-1200
 PROJECT REFERENCE NO. C-4901AD
 SHEET NO. 07
 DATE: MAY 3, 2013
 PRELIMINARY PLANS
 FOR THE CONSTRUCTION OF
 I-85/485
 ENGINEER

LEGEND

- F DENOTES FILL IN WETLAND
- E DENOTES EXCAVATION IN WETLAND
- S DENOTES IMPACTS IN SURFACE WATER
- TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- TS DENOTES MECHANIZED CLEARING

DETAIL B
 SPECIAL CUT BASE DITCH
 (Not to Scale)
 Min. D=2.0 FT.
 Max. d=1.0 FT.
 B=5.0 FT.
 Type of Liner= CL I Rip-Rap
 FROM STA. 7605+50 TO STA. 7616+00 LT.

DETAIL L
 BERM BASE DITCH
 (Not to Scale)
 Min. D=2.0 FT.
 Max. d=1.0 FT.
 B=2.0 FT.
 Type of Liner= CL I Rip-Rap
 FROM STA. 7608+90 TO STA. 7611+00 LT.

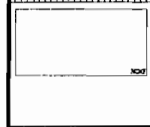
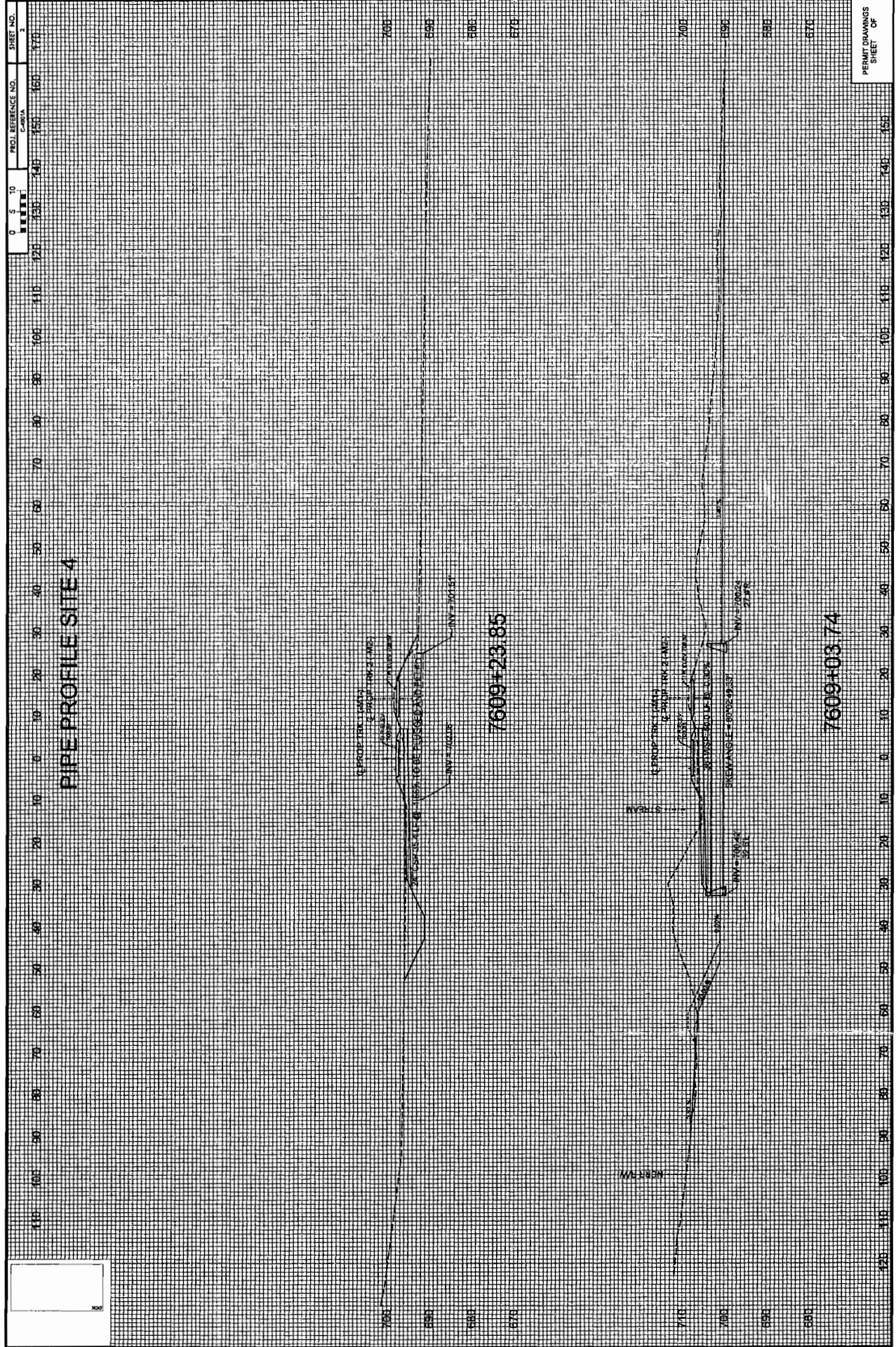
DETAIL P
 STANDARD BASE DITCH
 (Not to Scale)
 Min. D=3.0 FT.
 Max. d=1.0 FT.
 B=3.0 FT.
 Type of Liner= CL I Rip-Rap
 FROM STA. 7609+18 TO STA. 7610+00 RT.

DETAIL K
 (Not to Scale)
 Section View
 Min. D=1.0 FT.
 B=2.0 FT.
 Type of Liner= CL I Rip-Rap
 -41- STA. 7614+60 LT.

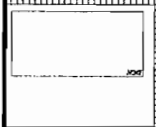
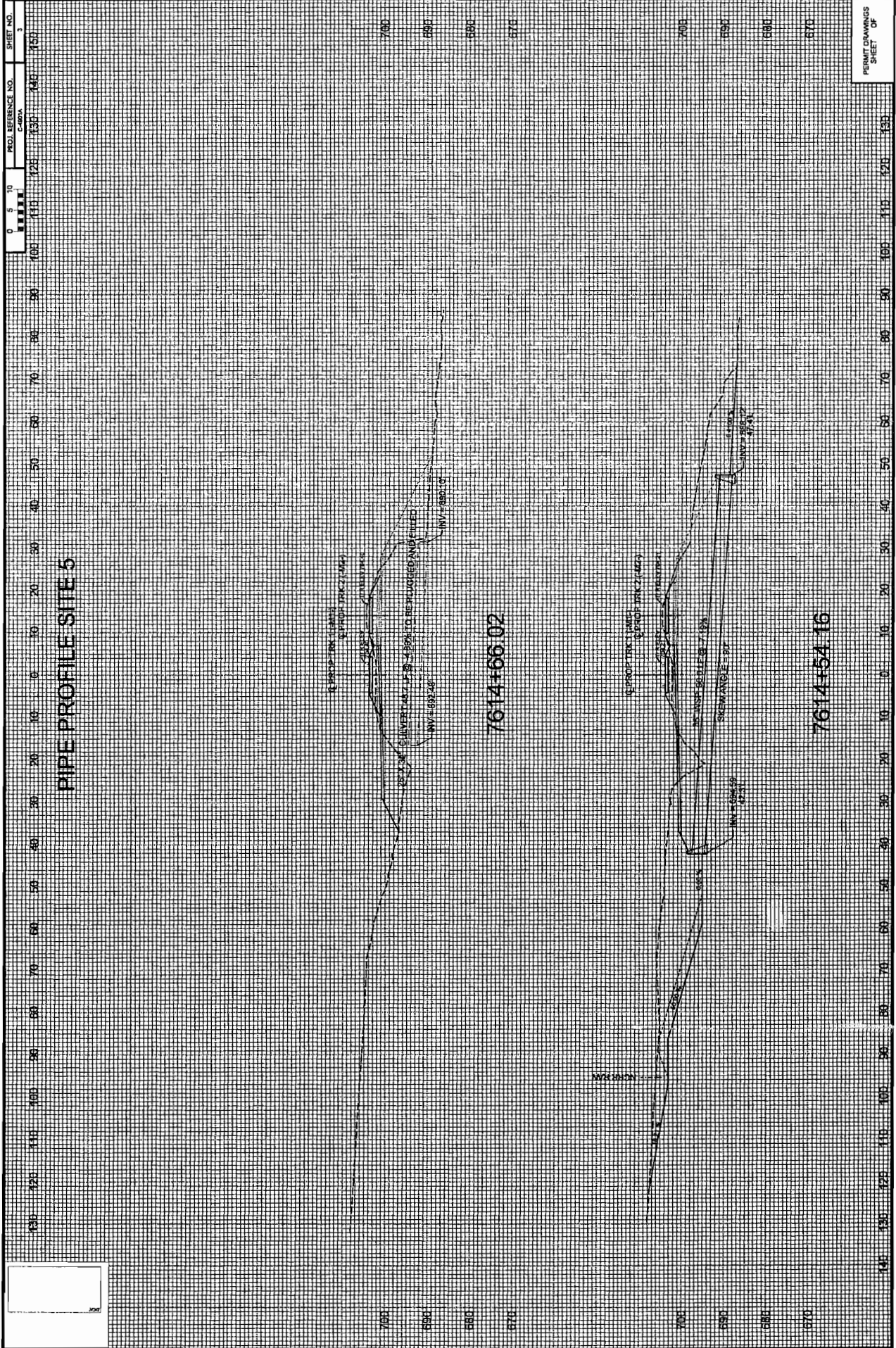
DETAIL M
 STANDARD BASE DITCH
 (Not to Scale)
 Min. D=2.0 FT.
 Max. d=1.0 FT.
 B=4.0 FT.
 Type of Liner= CL I Rip-Rap
 STA. 7614+60 RT.

DETAIL W
 STANDARD BASE DITCH
 (Not to Scale)
 Min. D=3.0 FT.
 Max. d=1.0 FT.
 B=2.0 FT.
 Type of Liner= CL I Rip-Rap
 STA. 7609+00 LT.
 STA. 7614+60 LT.

PERMIT DRAWINGS SHEET



PERMIT DRAWINGS
SHEET OF



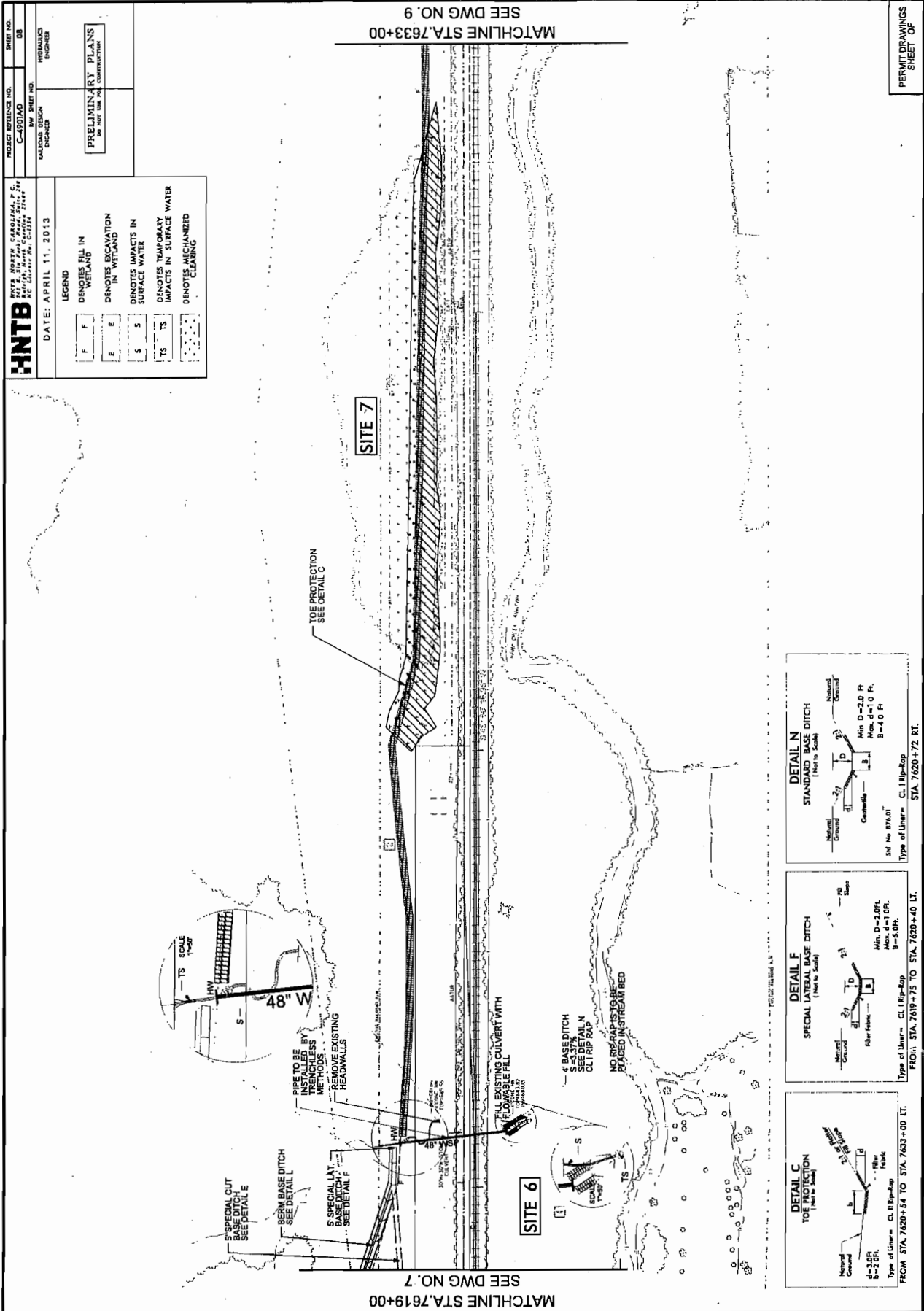
PIPE PROFILE SITE 5

66.02

54.16

PROJ. REFERENCE NO.	0248DEL_P10C1
SHEET NO.	3
DATE	6/11/13

PERMIT DRAWINGS
SHEET OF



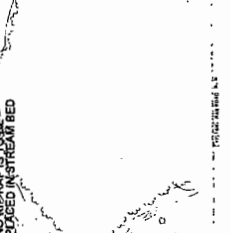
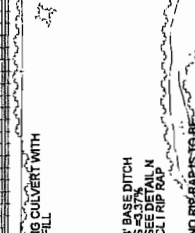
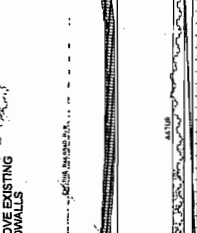
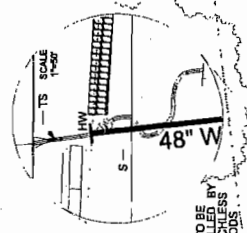
HNTB HNTB NORTH CAROLINA, P.C.
10000 W. WILSON ROAD, SUITE 200
RICHMOND, VA 23234
DATE: APRIL 11, 2013

PROJECT REFERENCE NO. C-4901AD
SHEET NO. 08
SHEETS 08 OF 08
DESIGNED BY: [REDACTED]
CHECKED BY: [REDACTED]
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROFESSOR
ENGINEER

LEGEND

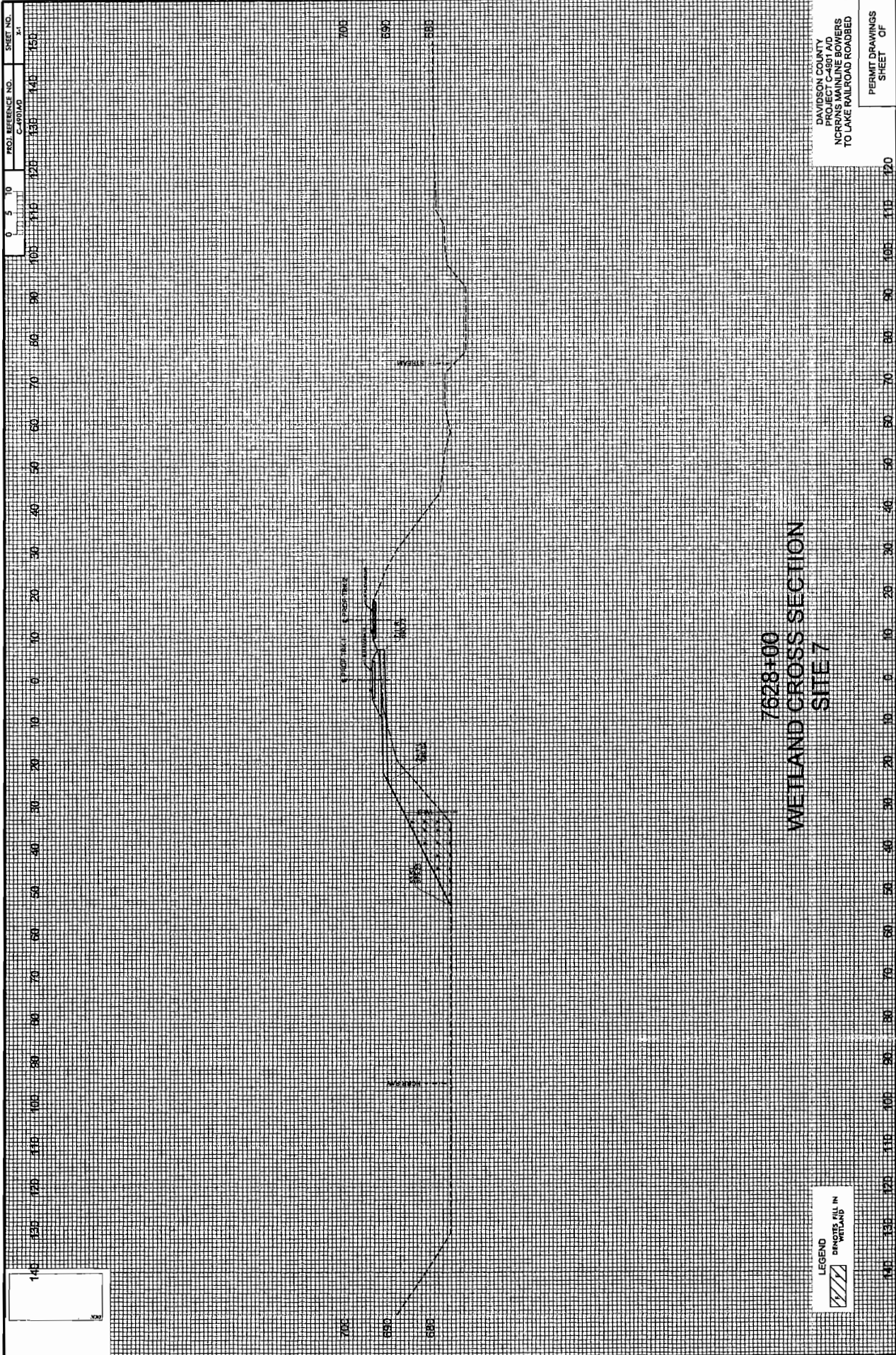
F DENOTES FILL IN WETLAND
E DENOTES EXCAVATION IN WETLAND
S DENOTES IMPACTS IN SURFACE WATER
TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
MECH DENOTES MECHANIZED CLEARING



PERMIT DRAWINGS SHEET OF

SEE DWG NO. 7
MATCHLINE STA. 7619+00

SEE DWG NO. 9
MATCHLINE STA. 7633+00



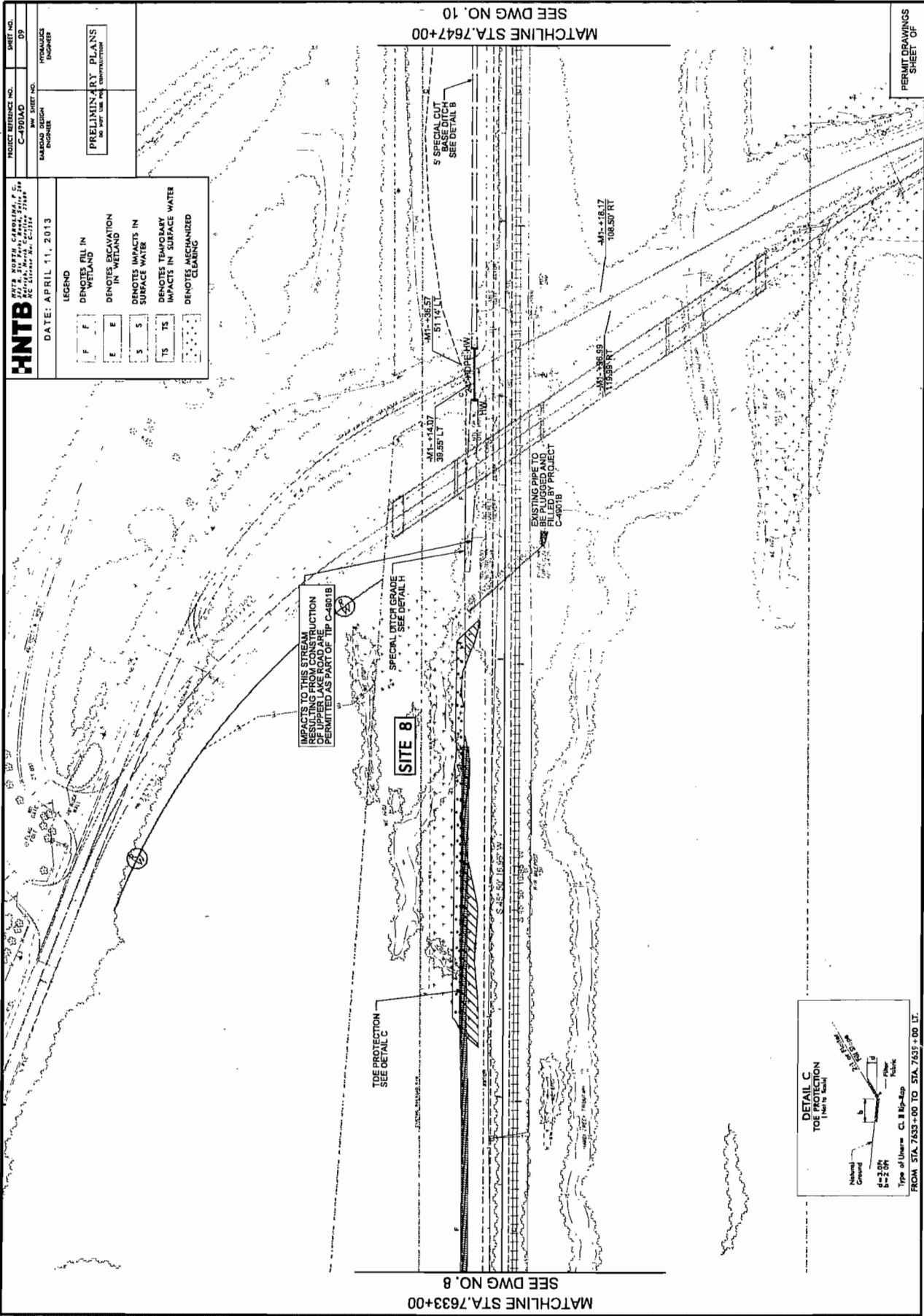
140
150
160
170
180
190
200

LEGEND
HATCHING DENOTES FILL IN WETLAND

7628+00
WETLAND CROSS SECTION
SITE 7

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140

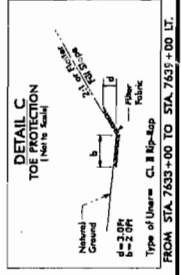
7000
6950
6900
6850

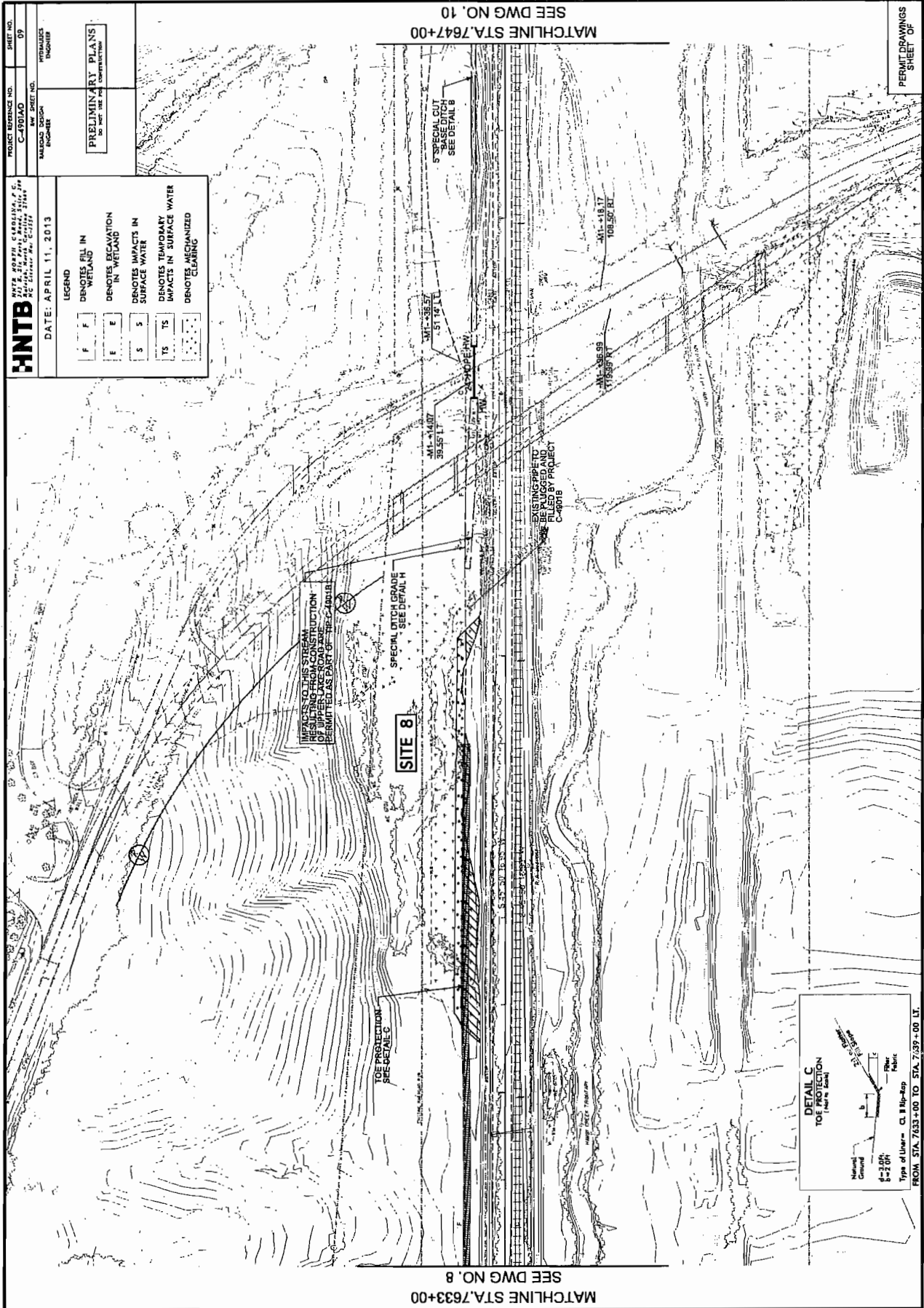


SEE DWG NO. 8
MATCHLINE STA. 7633+00

SEE DWG NO. 10
MATCHLINE STA. 7647+00

PERMIT DRAWINGS
SHEET OF





PROJECT REFERENCE NO. C-4901AD	SHEET NO. 09
DATE: APRIL 11, 2013	PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

HNTB
HNTB NORTH CAROLINA, P.C.
1700 S.W. 10th Street, Suite 100
Fort Lauderdale, FL 33315
Tel: 954.473.8800
Fax: 954.473.8801
www.hntb.com

DATE: APRIL 11, 2013

LEGEND

- F F DENOTES FILL IN WETLAND
- E E DENOTES EXCAVATION IN WETLAND
- S S DENOTES IMPACTS IN SURFACE WATER
- TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING

IMPACTS TO THIS STREAM RESULTING FROM CONSTRUCTION OF THIS PROJECT ARE SHOWN BY THE DOTTED LINE WITH THE FOLLOWING SYMBOLS:

TO CONSTRUCTION SEE DETAIL C

SPECIAL DITCH GRADE SEE DETAIL H

SPECIAL CUT BASE DITCH SEE DETAIL B

EXISTING PIPE TO BE REMOVED AND REPLACED WITH PRODUCT C-8007B

SEE DWG NO. 8

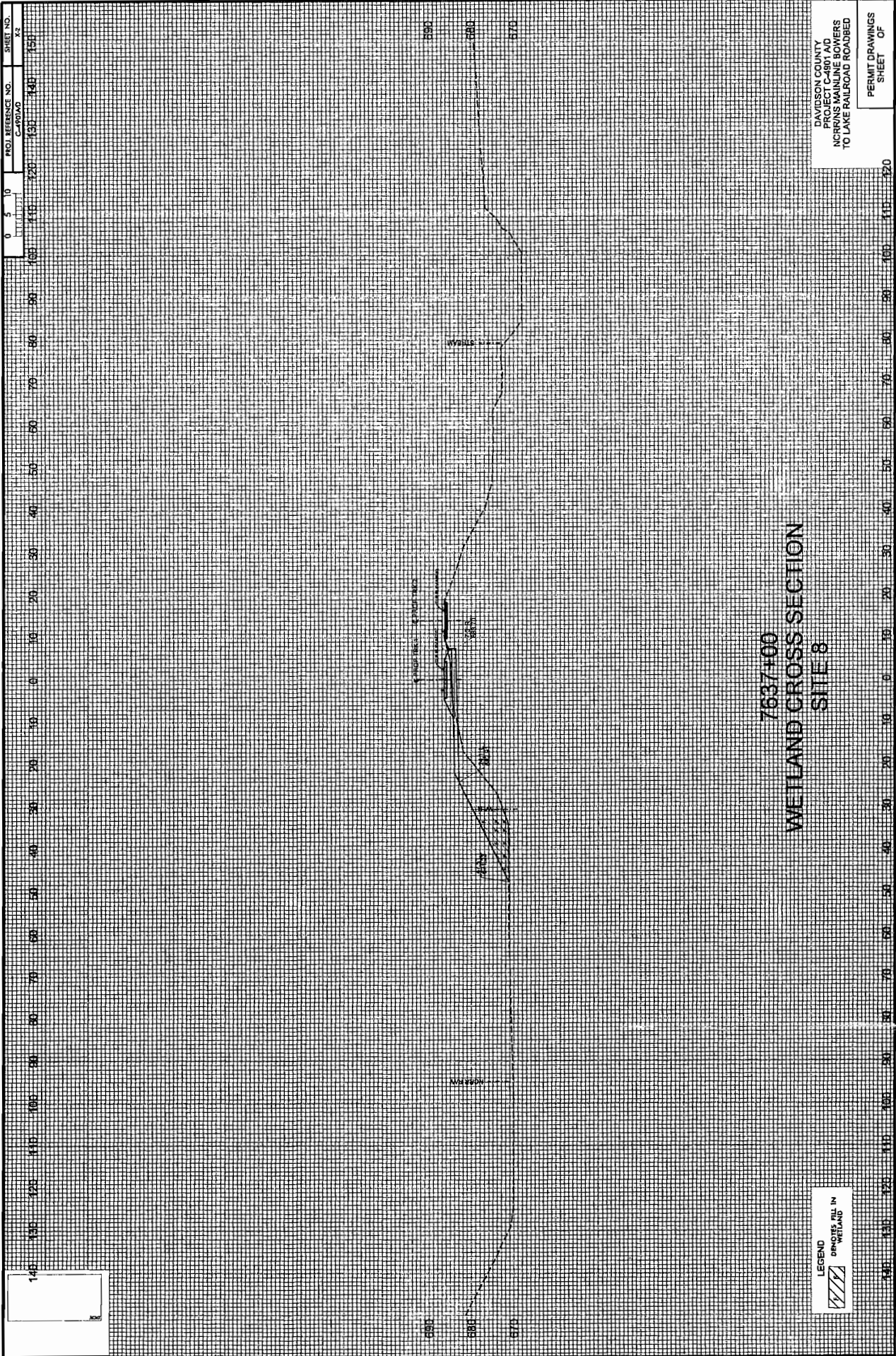
SEE DWG NO. 10

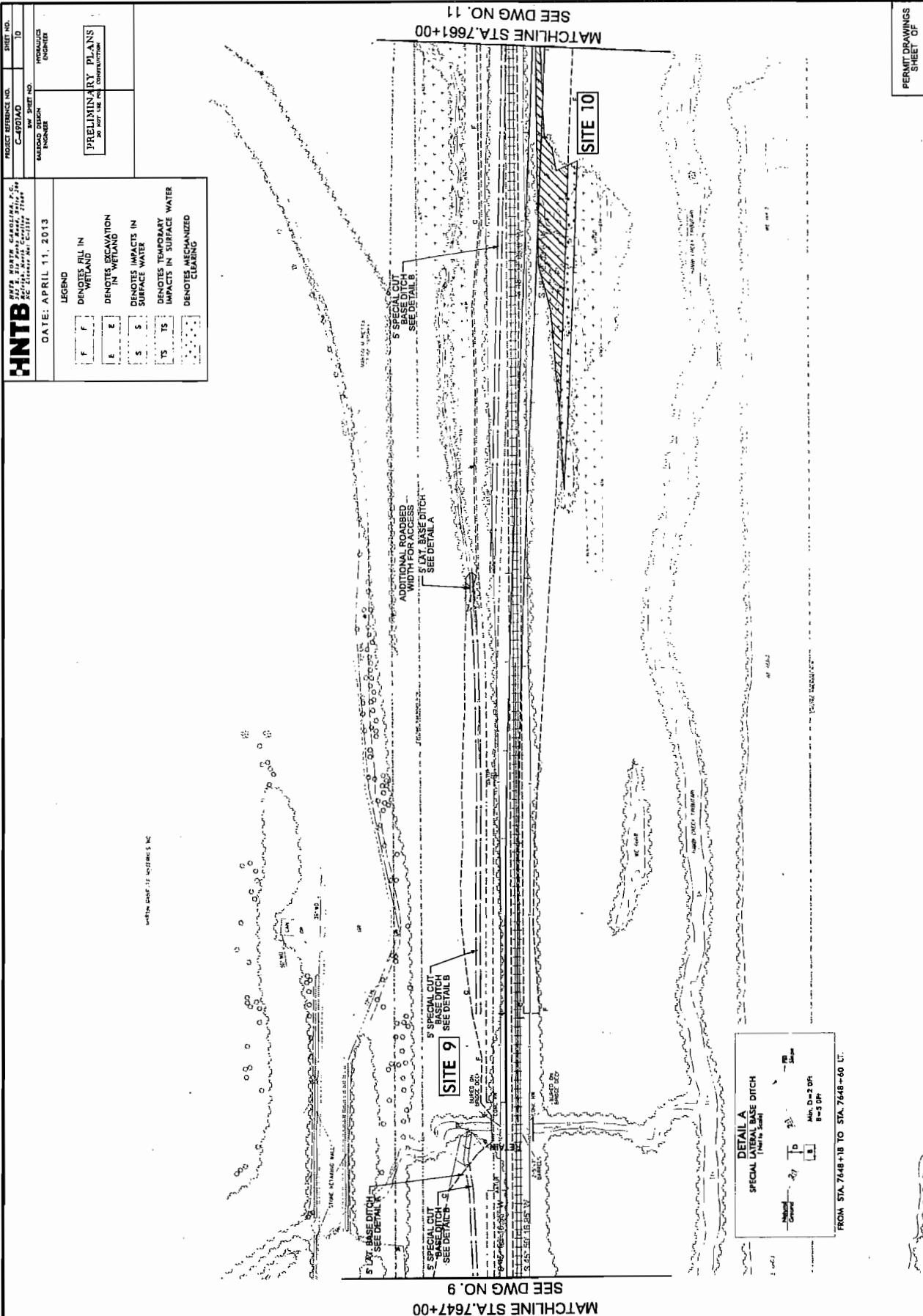
PERMIT DRAWINGS SHEET 09

FROM STA. 7633+00 TO STA. 7739+00 LT.

DETAIL C
TOP OF ROADWAY
TO (SEE DETAIL H)

Matchlines and other technical notes.





HNTB
 HNTB NORTH CAROLINA, P.C.
 100 SOUTH MAIN STREET, SUITE 200
 RALEIGH, NC 27601
 DATE: APRIL 11, 2013

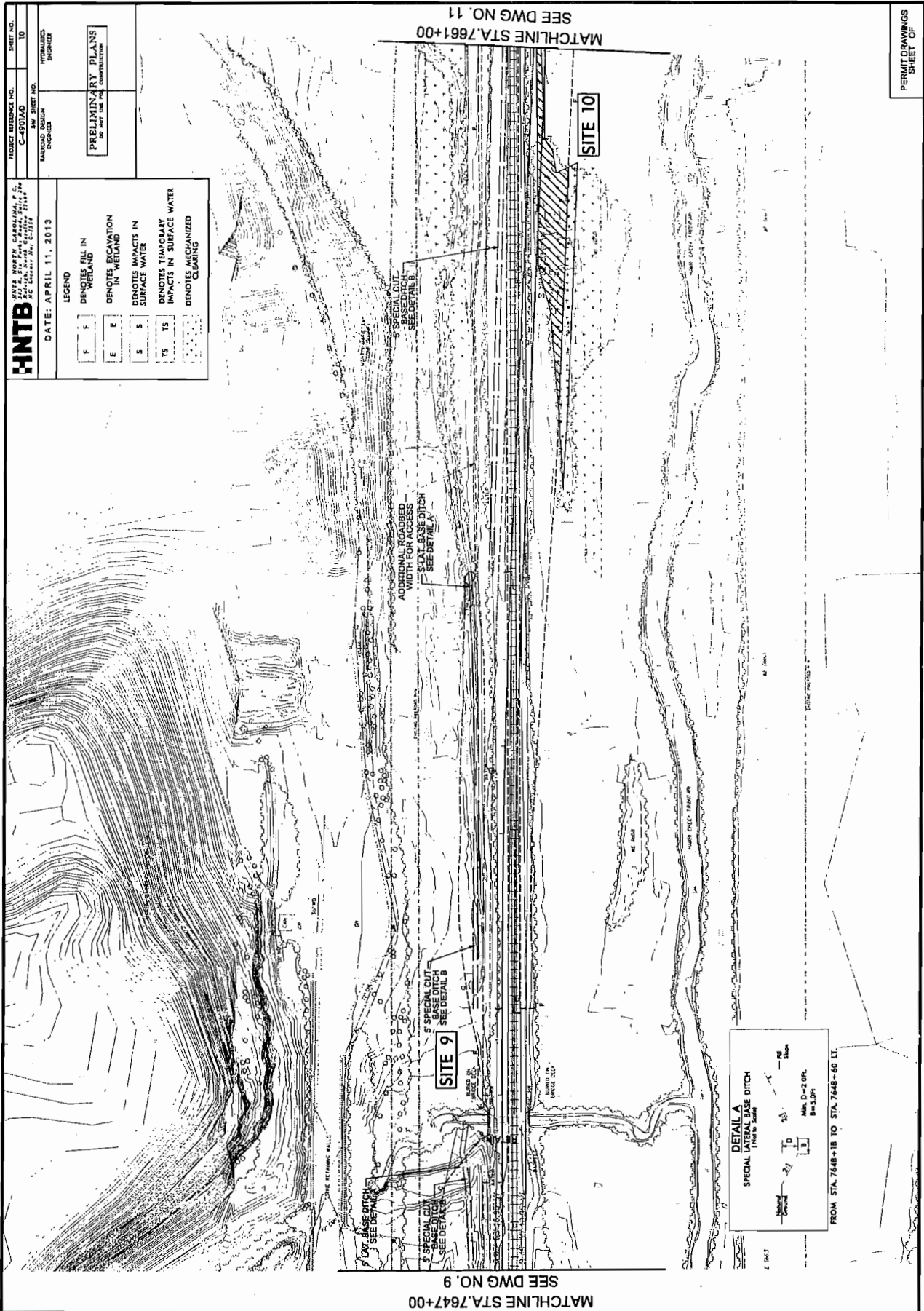
PROJECT REFERENCE NO. C-4931AD
 SHEET NO. 10
 DRAWING NO. 10
 PRELIMINARY PLANS
 FOR THE USE OF CONSTRUCTION

DATE: APRIL 11, 2013

LEGEND

F	DENOTES FILL IN WETLAND
E	DENOTES EXCAVATION IN WETLAND
S	DENOTES IMPACTS IN SURFACE WATER
TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
(Dotted pattern)	DENOTES MECHANIZED CLEARING

PERMIT DRAWINGS
 SHEET OF



PROJECT REFERENCE NO. C-4301AD
 SHEET NO. TO
 HNTB
 HNTB ENGINEERS
 PRELIMINARY PLANS
 FOR THE
 CONSTRUCTION

DATE: APRIL 11, 2013

LEGEND

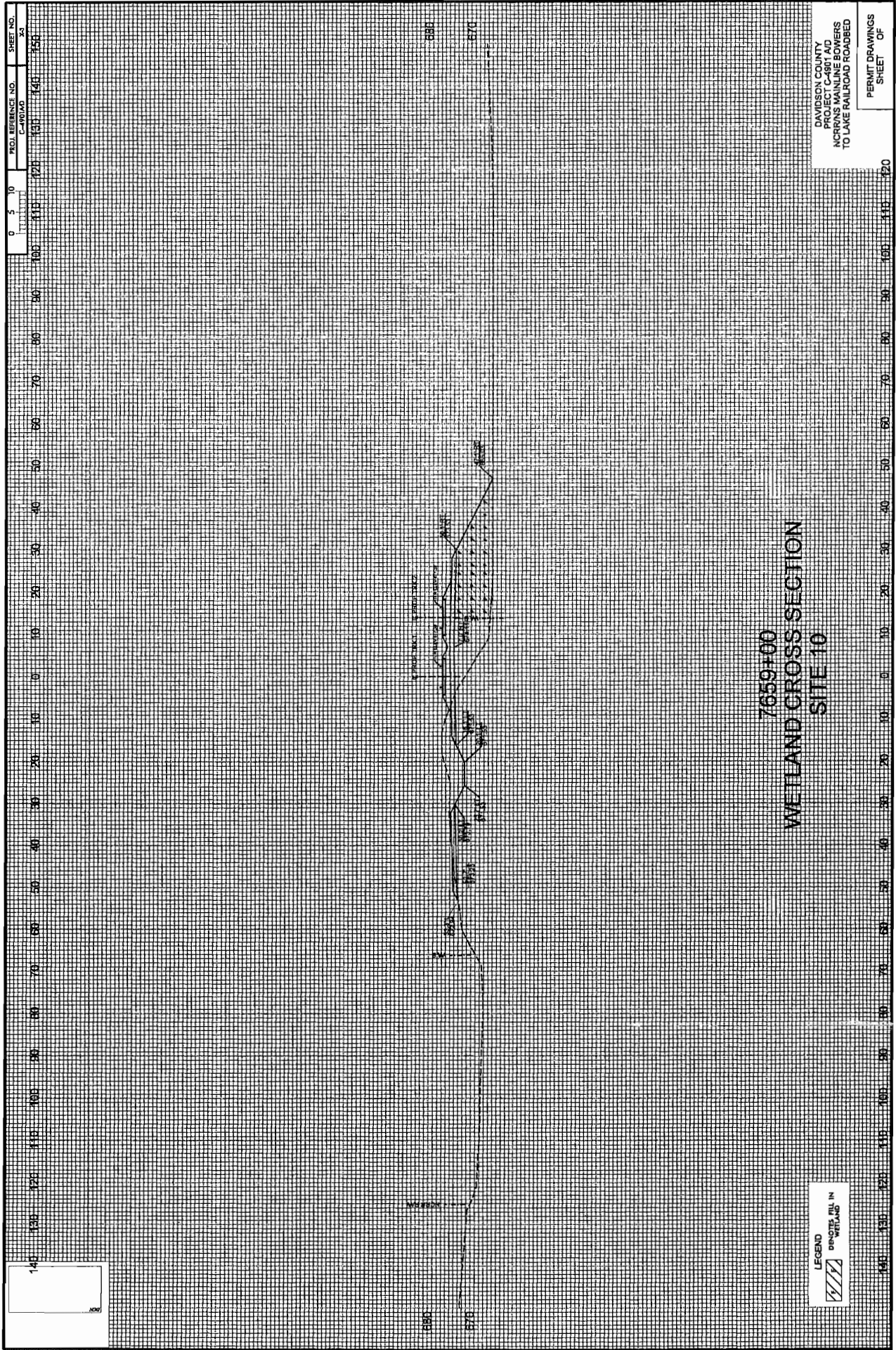
- F DENOTES FILL IN WETLAND
- E DENOTES EXCAVATION IN WETLAND
- S DENOTES IMPACTS IN SURFACE WATER
- TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- CL DENOTES MECHANIZED CLEANING

MATCHLINE STA. 7647+00
 SEE DWG NO. 9

MATCHLINE STA. 7661+00
 SEE DWG NO. 11

DETAIL A
 SPECIAL CUT BASE DITCH
 FROM STA. 7648+18 TO STA. 7648+40 LT.

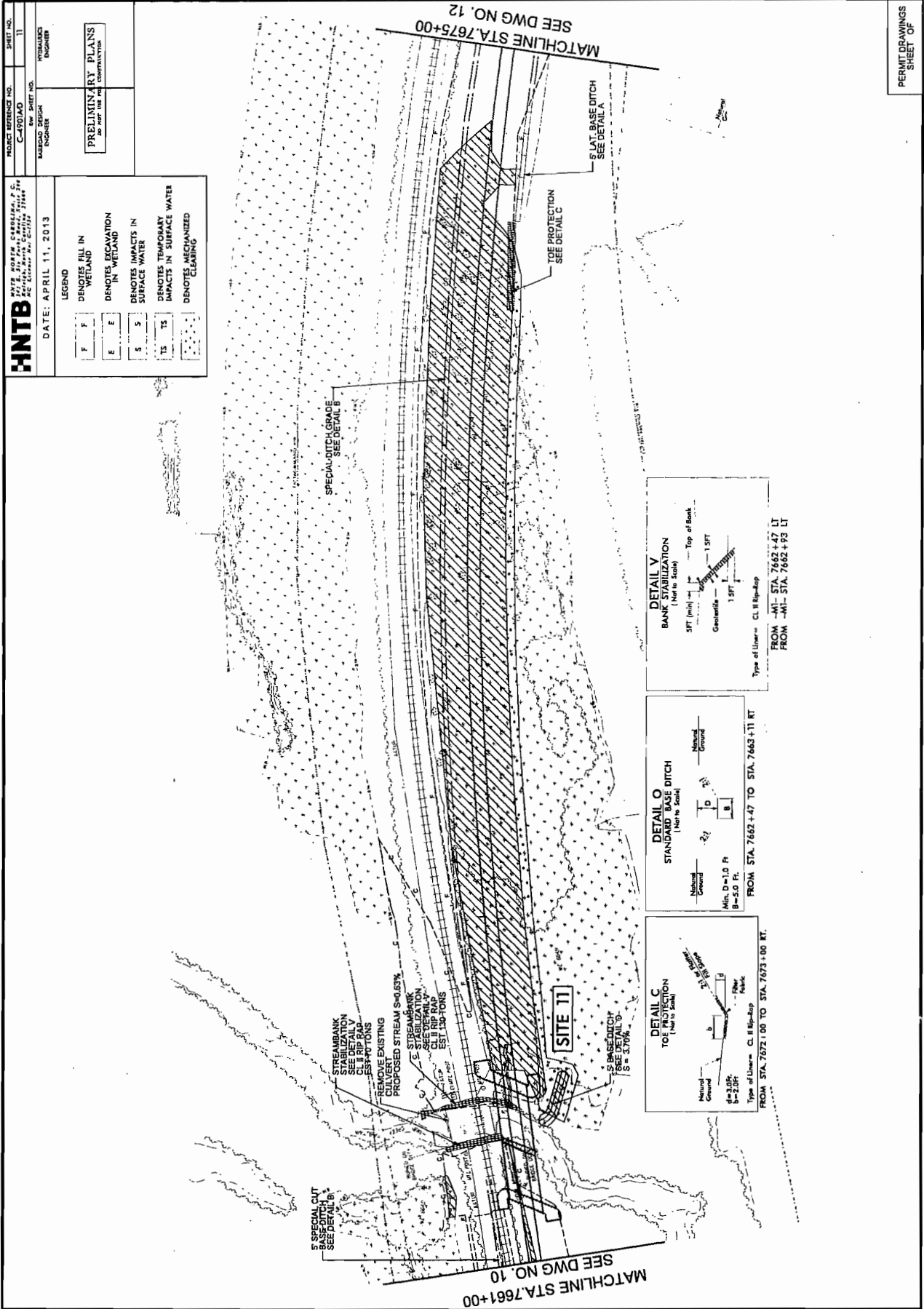
PERMIT DRAWINGS
 SHEET OF



7659+00
WETLAND CROSS SECTION
SITE 10

LEGEND
BUNDS III IN
WETLAND

DAVIDSON COUNTY
PROJECT C-981 AID
NCR/RNS MAINLINE BOWERS
TO LAKE RAILROAD ROADBED
PERMIT DRAWINGS
OF SHEET OF



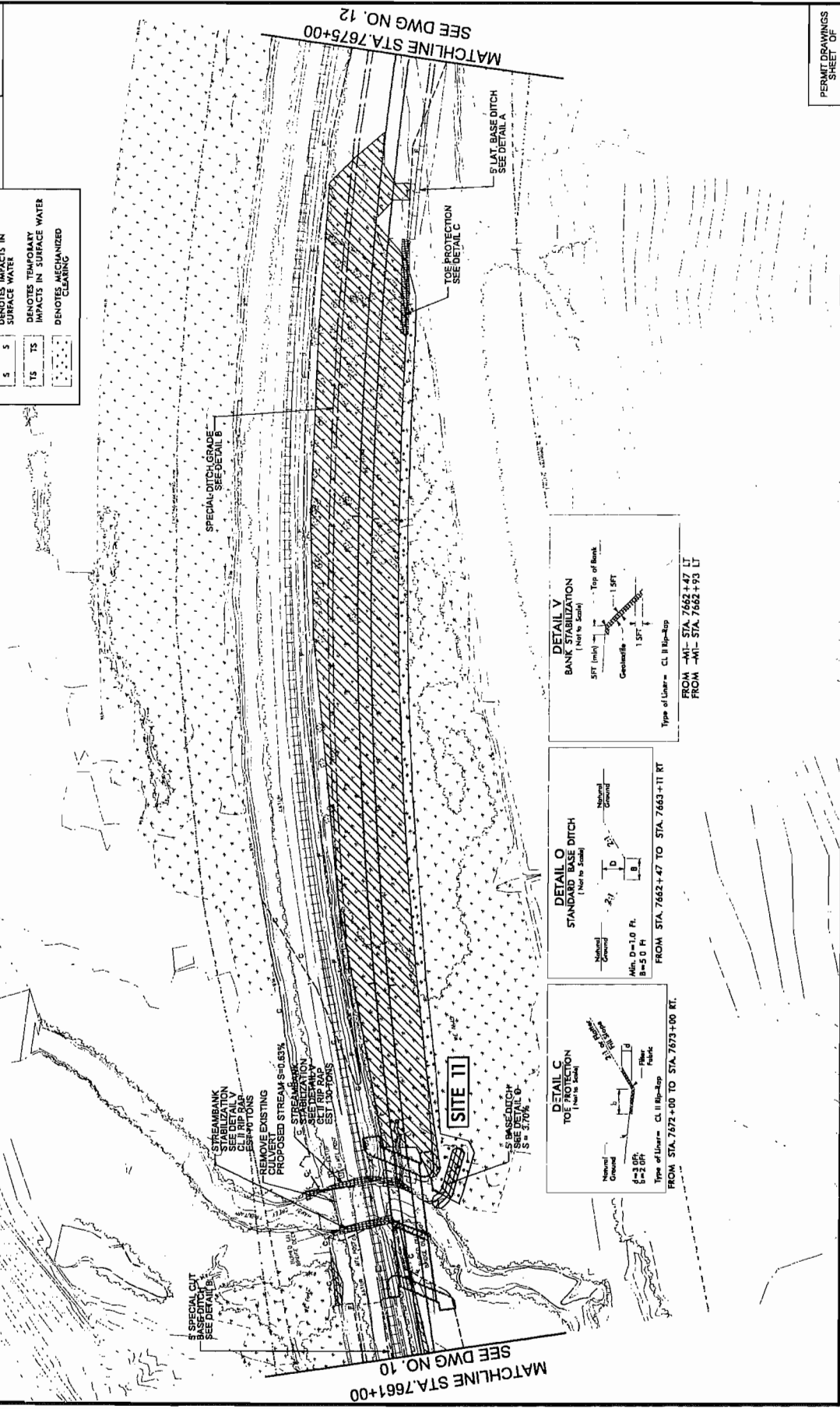
PERMIT DRAWINGS
SHEET OF

HNTB
HNTB NORTH CAROLINA, P.C.
10015 W. HARTLINE ROAD, SUITE 200
RICHMOND, VA 23234
DATE: APRIL 11, 2013

PROJECT REFERENCE NO. C-1901AD
BY SHEET NO. 11
DESIGNED BY: [Blank]
CHECKED BY: [Blank]
DATE: [Blank]
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

LEGEND

F	DENOTES FILL IN WETLAND
E	DENOTES EXCAVATION IN WETLAND
S	DENOTES IMPACTS IN SURFACE WATER
TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
[Pattern]	DENOTES MECHANIZED CLEARING



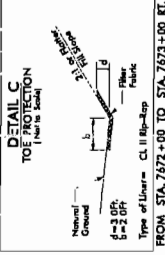
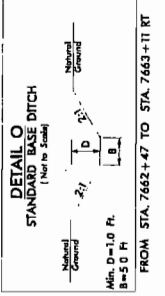
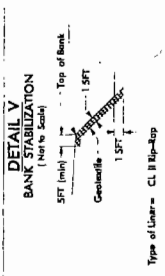
SPECIAL DITCH GRADE
SEE DETAIL B

SITE 11

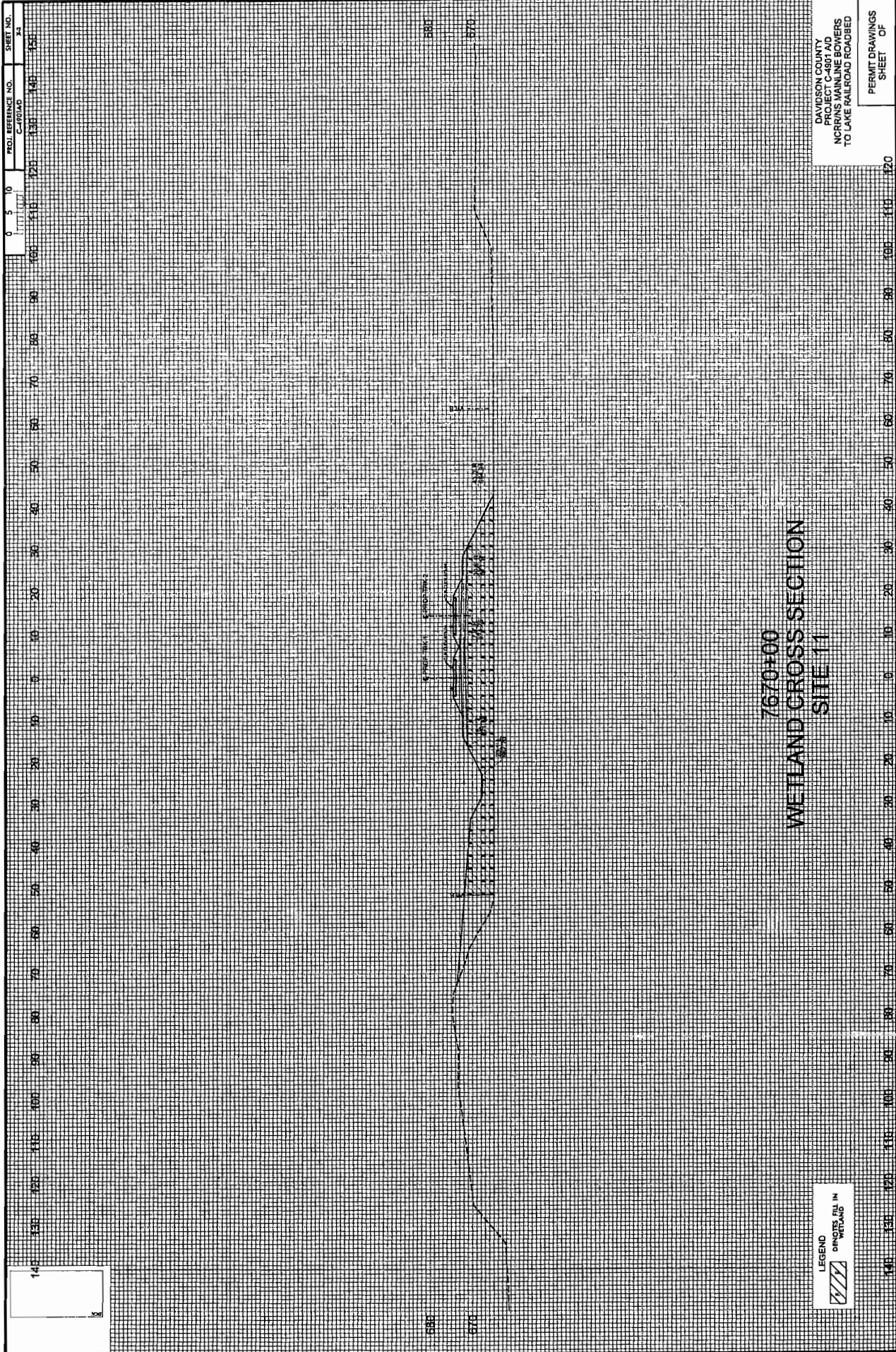
MATCHLINE STA. 7675+00
SEE DWG NO. 12

MATCHLINE STA. 7661+00
SEE DWG NO. 10

5' BANK STABILIZATION SEE DETAIL V
5' RIP RAP SEE DETAIL V
REMOVE EXISTING CULVERT
PROPOSED STREAM S=0.65%
STREAM BANK STABILIZATION
5' RIP RAP EST. 130-TONS
EST. 130-TONS



PERMIT DRAWINGS
SHEET OF



LEGEND
 DEPOSITS FILL IN WETLAND

7670+00
 WETLAND CROSS SECTION
 SITE 11

DAVIDSON COUNTY
 PROJECT C-4807 AID
 NCR/RS MAINLINE BOWERS
 TO LAKE RAILROAD ROADBED
 PERMIT DRAWINGS
 SHEET OF

PROJ. REFERENCE NO.
 CARDNO. 143 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

SHEET NO.
 21

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

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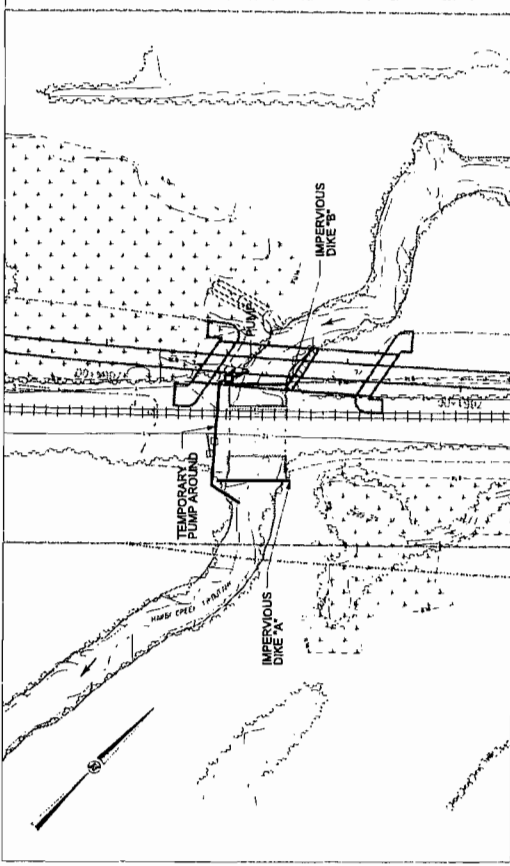
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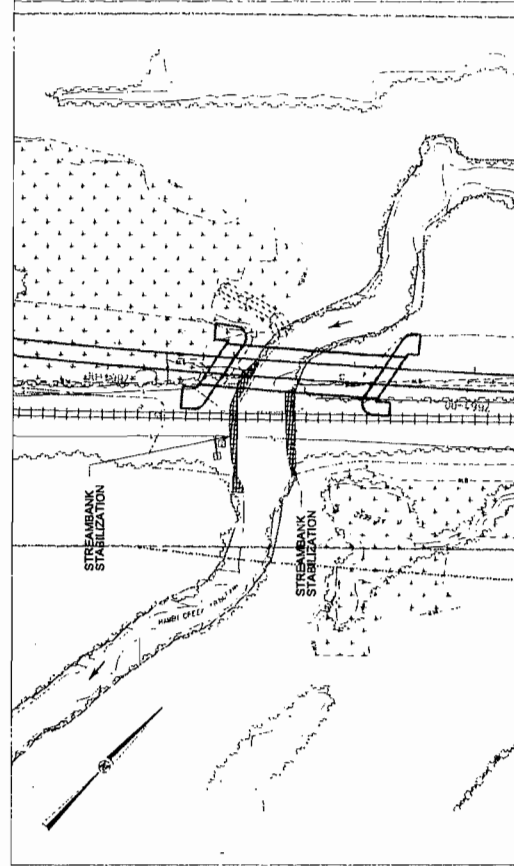
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HNTB HNTB NORTH CAROLINA, P.C. 101 E. 5th Street, Suite 200 Raleigh, NC 27601 DATE: MARCH 12, 2013	PROJECT REFERENCE NO. C-4901A	SHEET NO. 11
	DATE	PROJECT NO.
	DATE	PROJECT NO.
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

C-4901A CULVERT REMOVAL PHASING
HAMBY CREEK TRIBUTARY

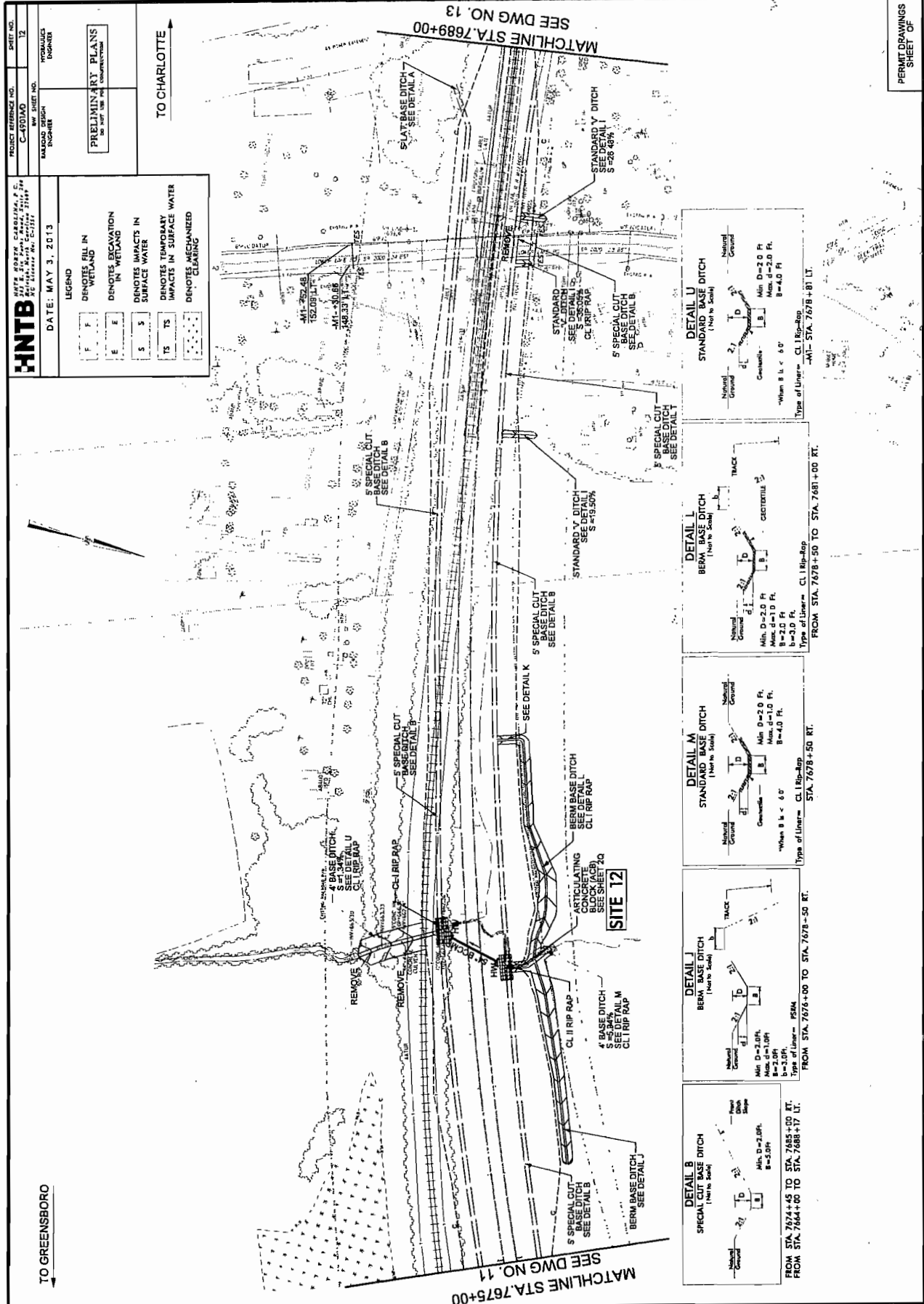


- PHASE I**
1. INSTALL IMPERVIOUS DIKES "A" AND "B" AS SHOWN.
 2. INSTALL PIPE AND PUMP, THEN PUMP HAMBY CREEK TRIBUTARY AROUND CONSTRUCTION AREA.
 3. DEWATER CONSTRUCTION AREA INTO SPECIAL STILLING BASIN(S).



- PHASE II**
1. REMOVE EXISTING CONCRETE CULVERTS IN THEIR ENTIRETY.
 2. GRADE CHANNEL. CONSTRUCT NEW BANKS AT A SLOPE OF 4.5:1 AND LINE WITH CLASS II RIP RAP TO THE LIMITS SHOWN.
 3. UPON COMPLETION OF RIP RAP, REMOVE IMPERVIOUS DIKE, PUMPS AND TEMP. PIPE.

PERMIT DRAWINGS
SHEET 01



HNTB HNTB CONSULTANTS, P.C.
371 S. 1st Street, Suite 200
Greensboro, NC 27401
Tel: 336-333-3333
Fax: 336-333-3334

PROJECT REFERENCE NO. C-4701AD
SHEET NO. 12

DATE: MAY 3, 2013

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

LEGEND

F DENOTES FILL IN WETLAND

E DENOTES EXCAVATION IN WETLAND

S DENOTES IMPACTS IN SURFACE WATER

TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

CL DENOTES MECHANIZED CLEARING

TO CHARLOTTE

TO GREENSBORO

MATCHLINE STA. 7689+00
SEE DWG NO. 13

MATCHLINE STA. 7675+00
SEE DWG NO. 11

DETAIL B
SPECIAL CUT BASE DITCH
(Not to Scale)

Min. D=2.0 FT.
Max. d=2.0 FT.
B=4.0 FT.

FROM STA. 7674+45 TO STA. 7685+00 RT.
FROM STA. 7664+60 TO STA. 7688+17 LT.

DETAIL J
BERM BASE DITCH
(Not to Scale)

Min. D=2.0 FT.
Max. d=1.0 FT.
B=4.0 FT.

*When B is < 6'0"

Type of Liner= CL I Rip-Rap

FROM STA. 7676+00 TO STA. 7678-50 RT.

DETAIL M
STANDARD BASE DITCH
(Not to Scale)

Min. D=2.0 FT.
Max. d=2.0 FT.
B=3.0 FT.

*When B is < 6'0"

Type of Liner= CL I Rip-Rap

FROM STA. 7678+50 TO STA. 7681+00 RT.

DETAIL L
BERM BASE DITCH
(Not to Scale)

Min. D=2.0 FT.
Max. d=2.0 FT.
B=3.0 FT.

*When B is < 6'0"

Type of Liner= CL I Rip-Rap

FROM STA. 7678+50 TO STA. 7681+00 RT.

DETAIL U
STANDARD BASE DITCH
(Not to Scale)

Min. D=2.0 FT.
Max. d=2.0 FT.
B=4.0 FT.

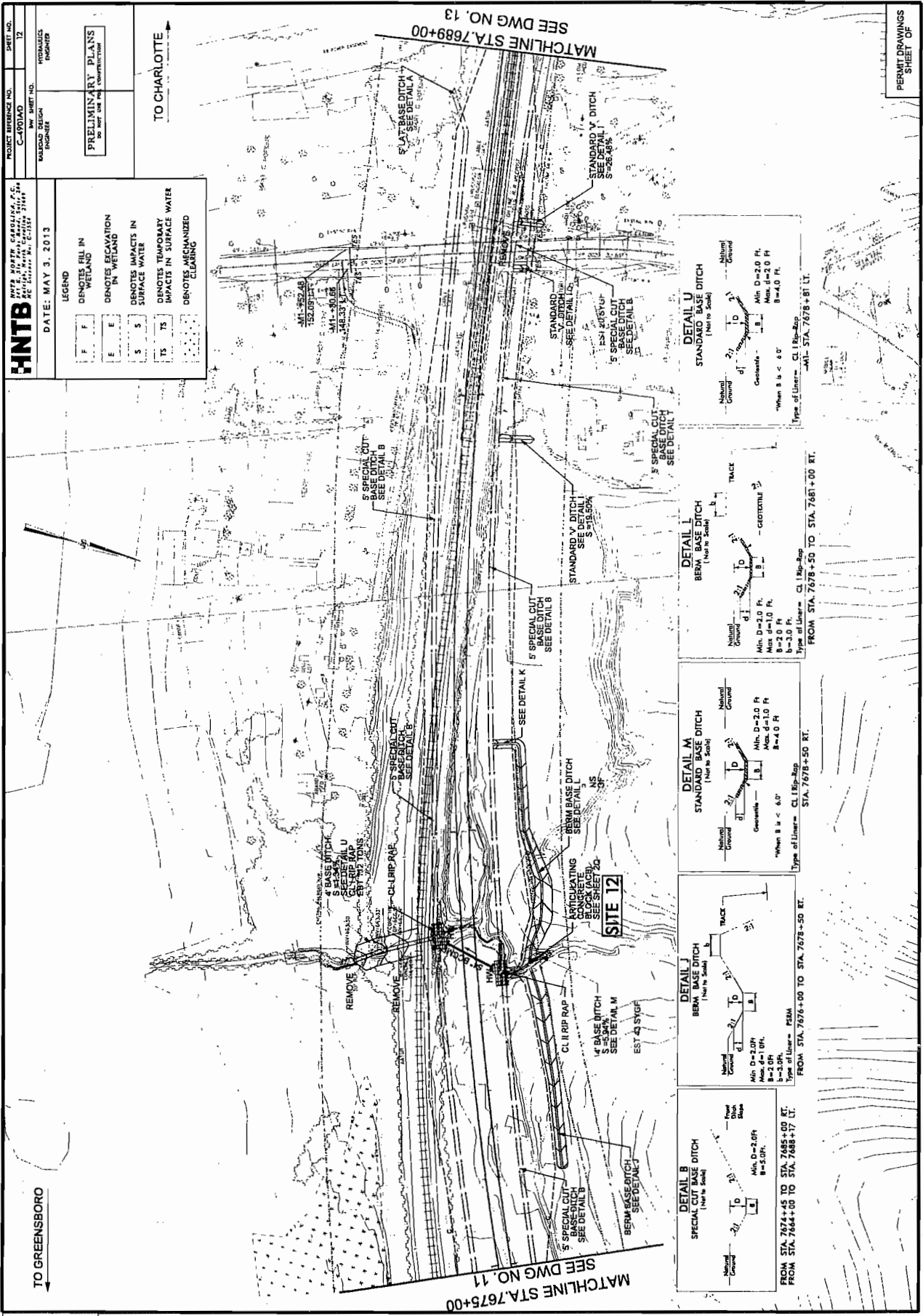
*When B is < 6'0"

Type of Liner= CL I Rip-Rap

FROM STA. 7678+81 LT.

SITE 12

PERMIT DRAWINGS
SHEET OF



HNTB
HNTB NORTH CAROLINA, P.C.
1714 S. BAYVIEW BLVD., SUITE 200
Raleigh, NC 27605
Tel: 919.876.8100
Fax: 919.876.8101
www.hntb.com

PROJECT REFERENCE NO. C-4701AD
BY SHEET NO. 12
HYDRAULICS ENGINEER

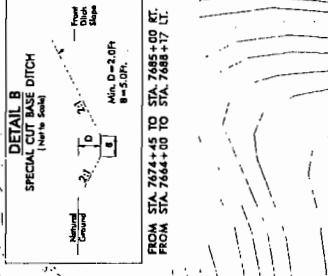
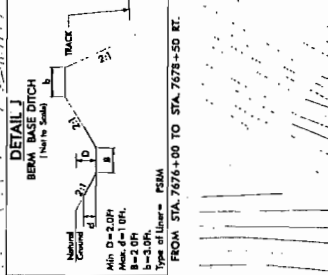
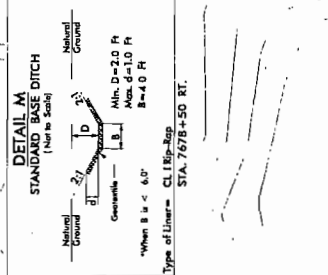
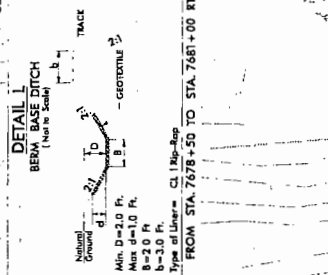
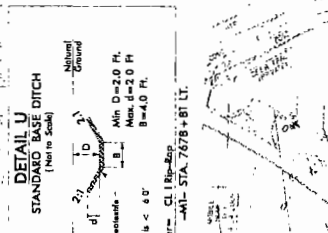
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PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

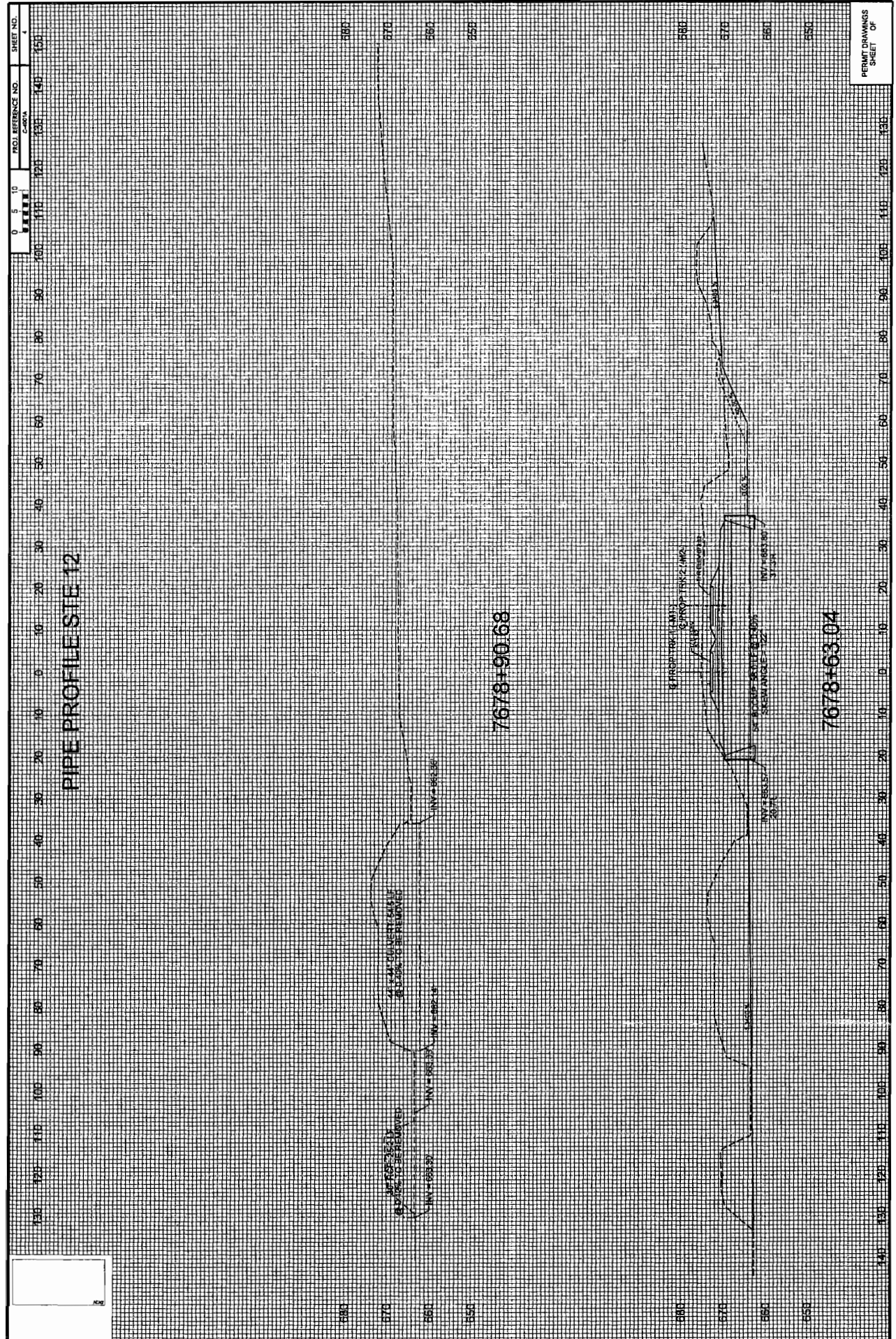
TO CHARLOTTE

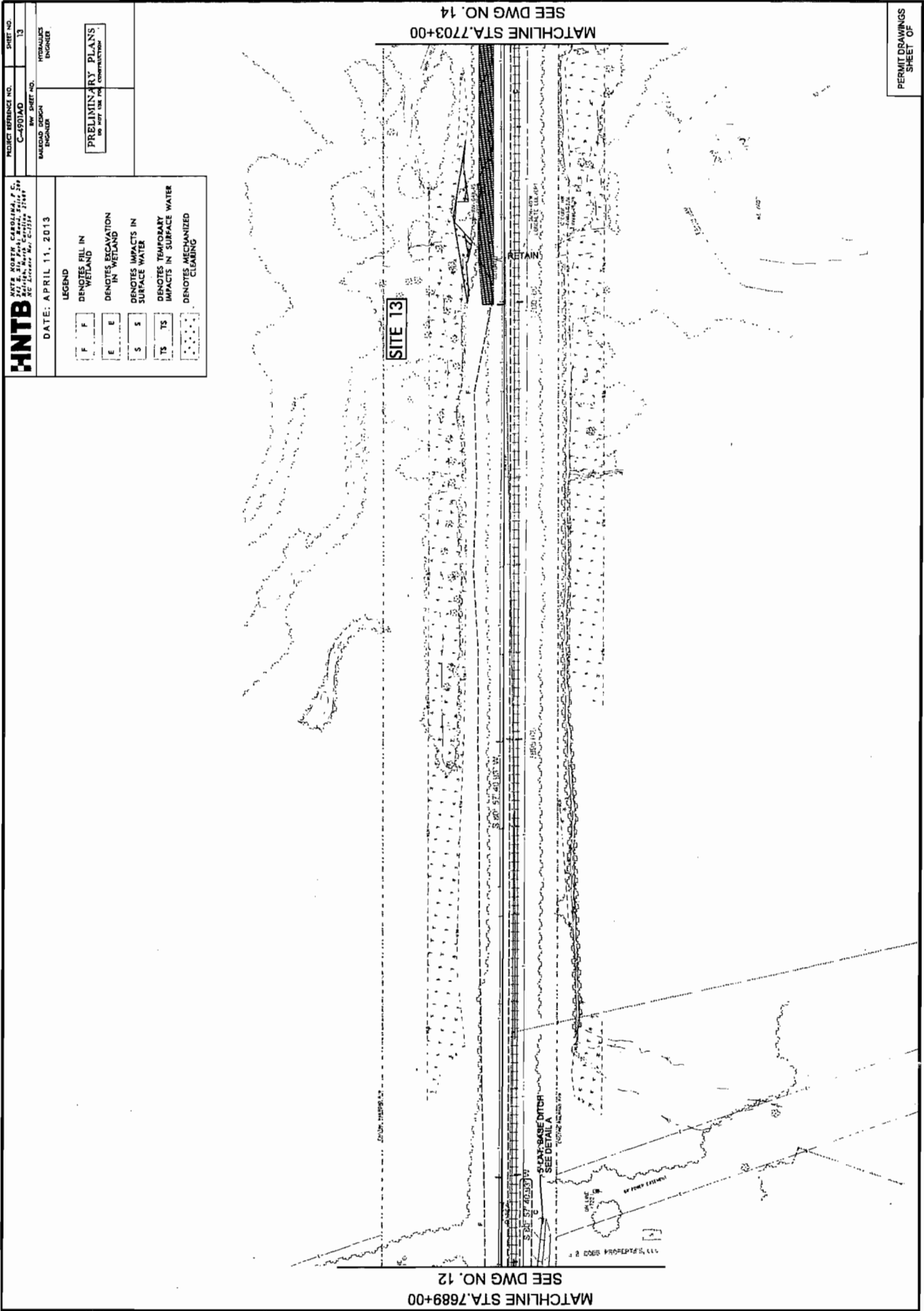
LEGEND

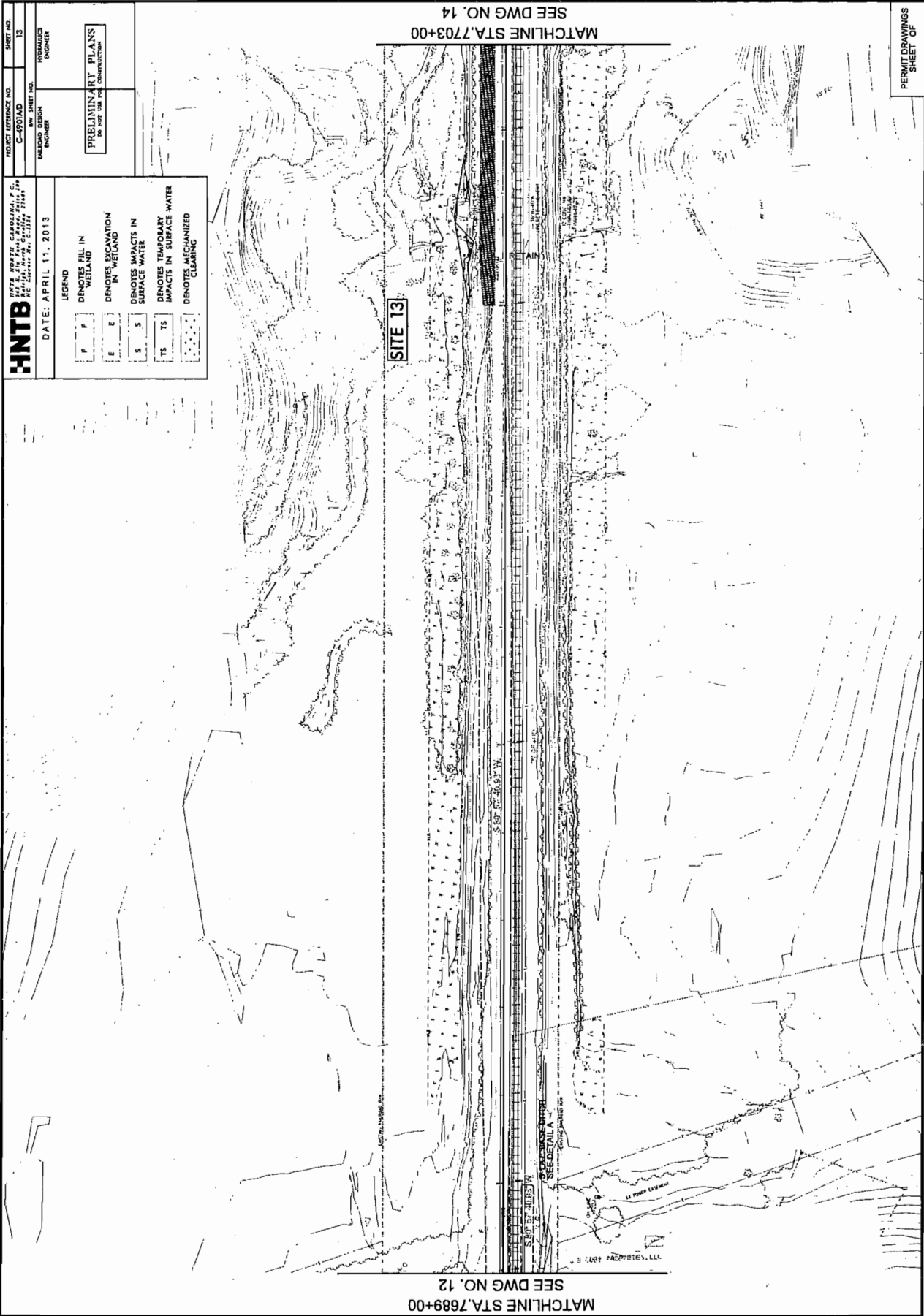
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E	DENOTES EXCAVATION IN WETLAND
S	DENOTES IMPACTS IN SURFACE WATER
TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
CS	DENOTES MECHANIZED CLEARING



PERMIT DRAWINGS
SHEET OF







HNTB
 HNTB ENGINEERING, INC.
 10000 WEST 10TH AVENUE, SUITE 200
 DENVER, COLORADO 80231
 PHONE: 303.733.8000
 FAX: 303.733.8001
 WWW.HNTB.COM

PROJECT NUMBER: C-00140
 SHEET NO. 13
 PRELIMINARY PLANS
 FOR THE NEW BRIDGE

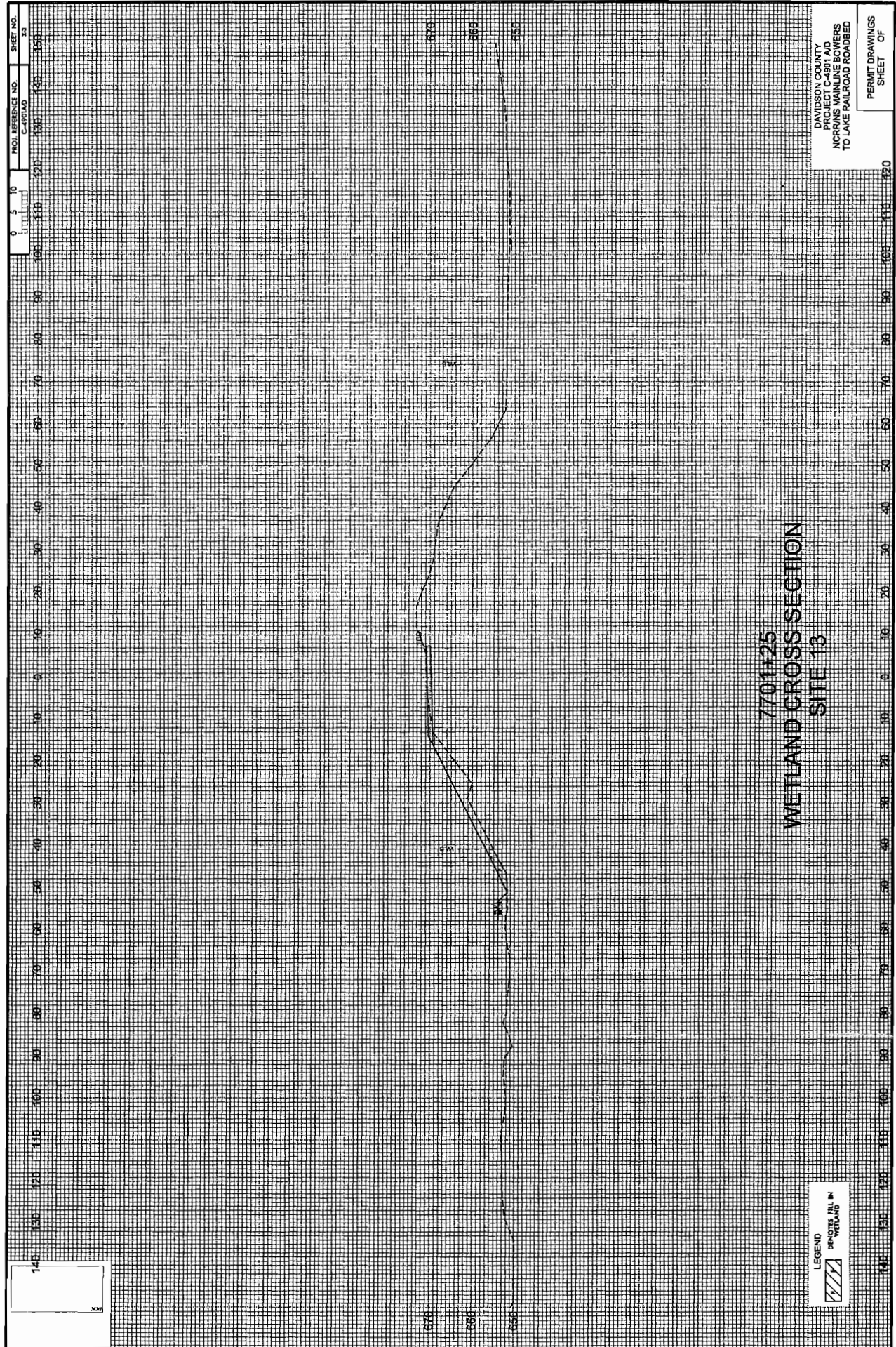
DATE: APRIL 11, 2013

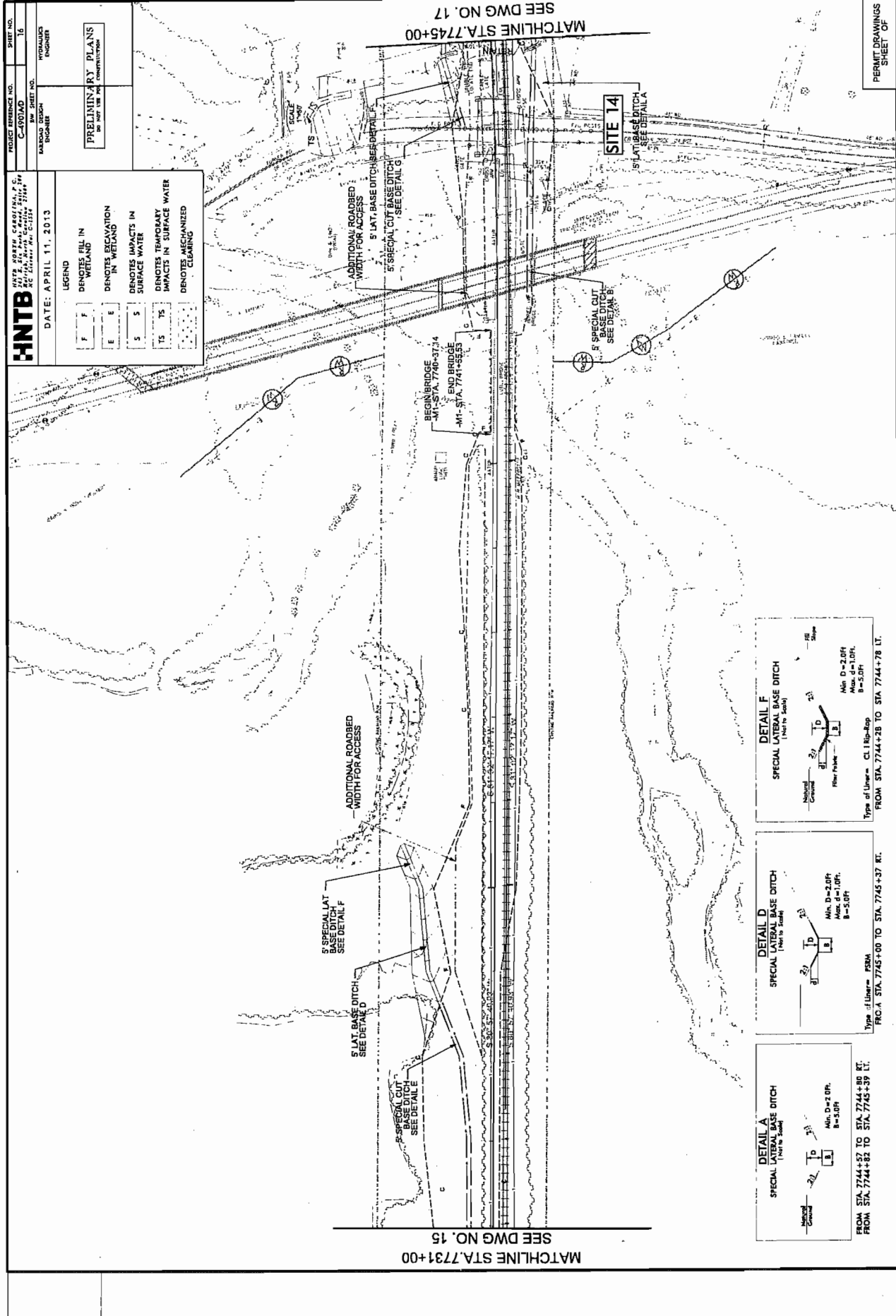
LEGEND

- F DENOTES FILL IN WETLAND
- E DENOTES EXCAVATION IN WETLAND
- S DENOTES IMPACTS IN SURFACE WATER
- TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- CL DENOTES MECHANIZED CLEARING

PREPARED BY: [Signature]
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]

PERMIT DRAWINGS
SHEET OF

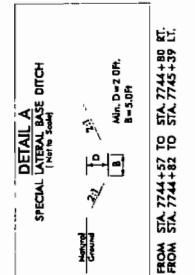
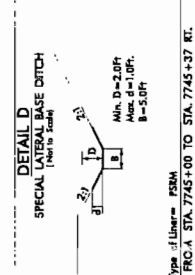
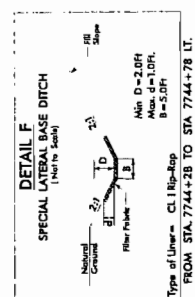




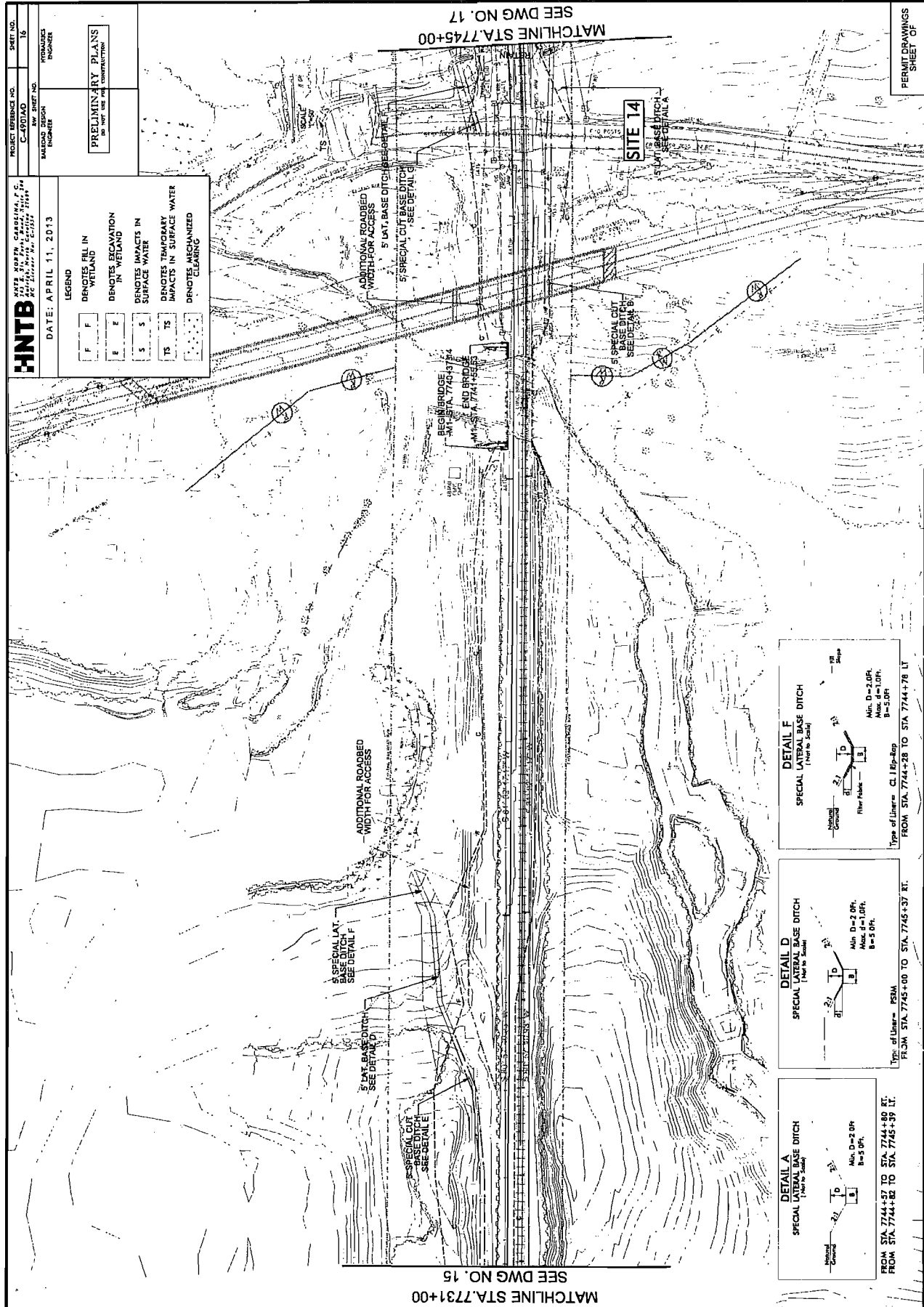
PROJECT REFERENCE NO. C-4901AD	SHEET NO. 16
DATE: APRIL 11, 2013	PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
HNTB HAYS, NORTH CAROLINA, P.C. 2010 S. W. 10th Street, Suite 200 Clemens, NC 27514	REGISTERED PROFESSIONAL ENGINEER

LEGEND

F	DENOTES FILL IN WETLAND
E	DENOTES EXCAVATION IN WETLAND
S	DENOTES IMPACTS IN SURFACE WATER
TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
(Symbol)	DENOTES MECHANIZED CLEARING



PERMIT DRAWINGS
SHEET OF



HNTB
HNTB HOLDINGS, INC.
1111 E. 17th Avenue, Suite 1000
Denver, Colorado 80202
Tel: 303.733.1100
Fax: 303.733.1101
www.hntb.com

DATE: APRIL 11, 2013

LEGEND

- F F DENOTES FILL IN WETLAND
- E E DENOTES EXCAVATION IN WETLAND
- S S DENOTES IMPACTS IN SURFACE WATER
- TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- CC CC DENOTES MECHANIZED CLEARING

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT REFERENCE NO. C-4907AD
SHEET NO. 16

DATE: APRIL 11, 2013

DESIGNER: HNTB

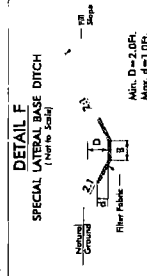
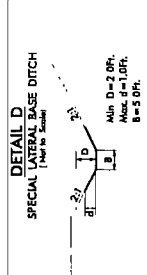
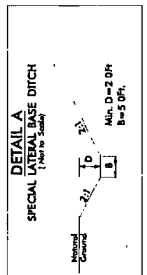
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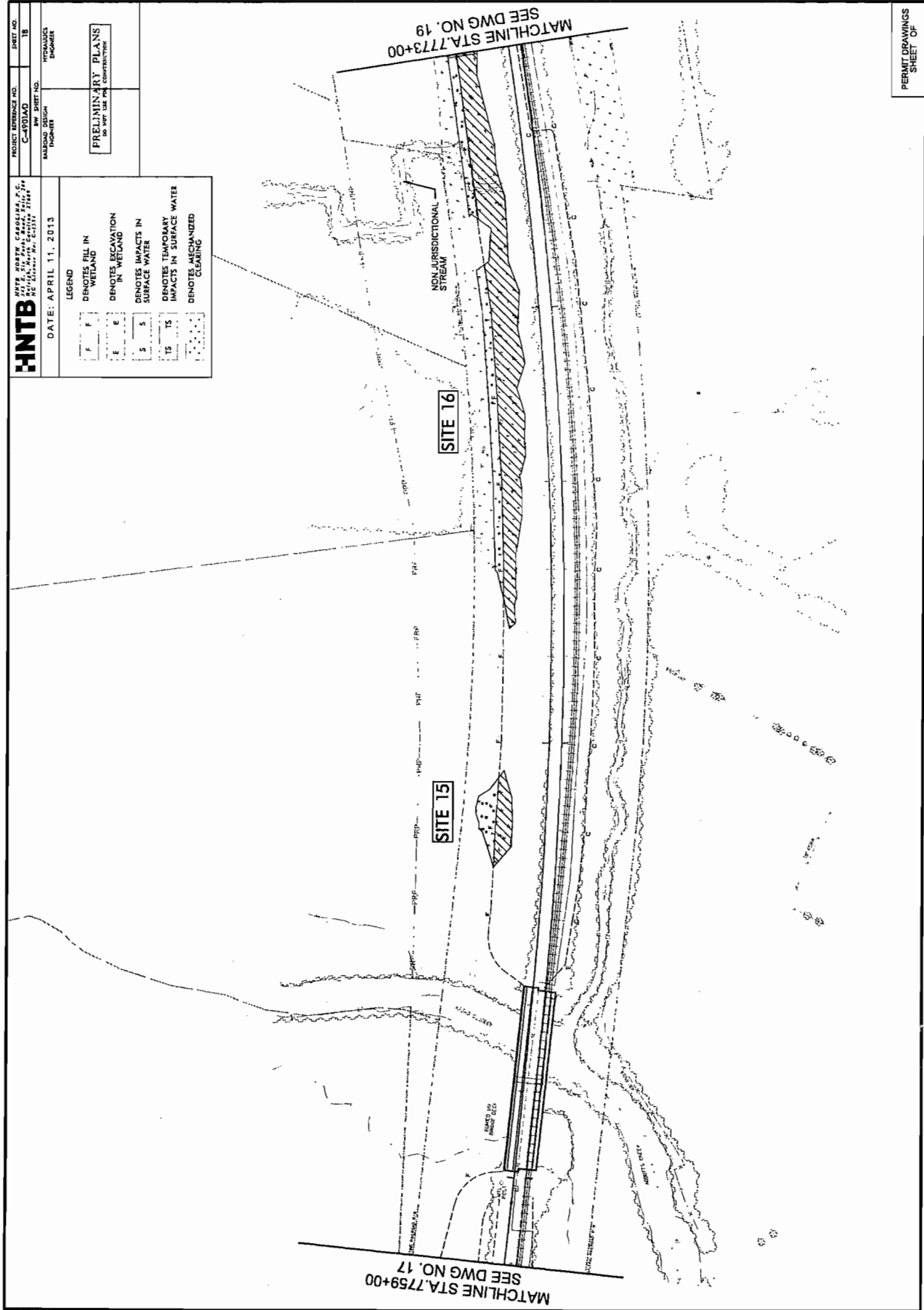
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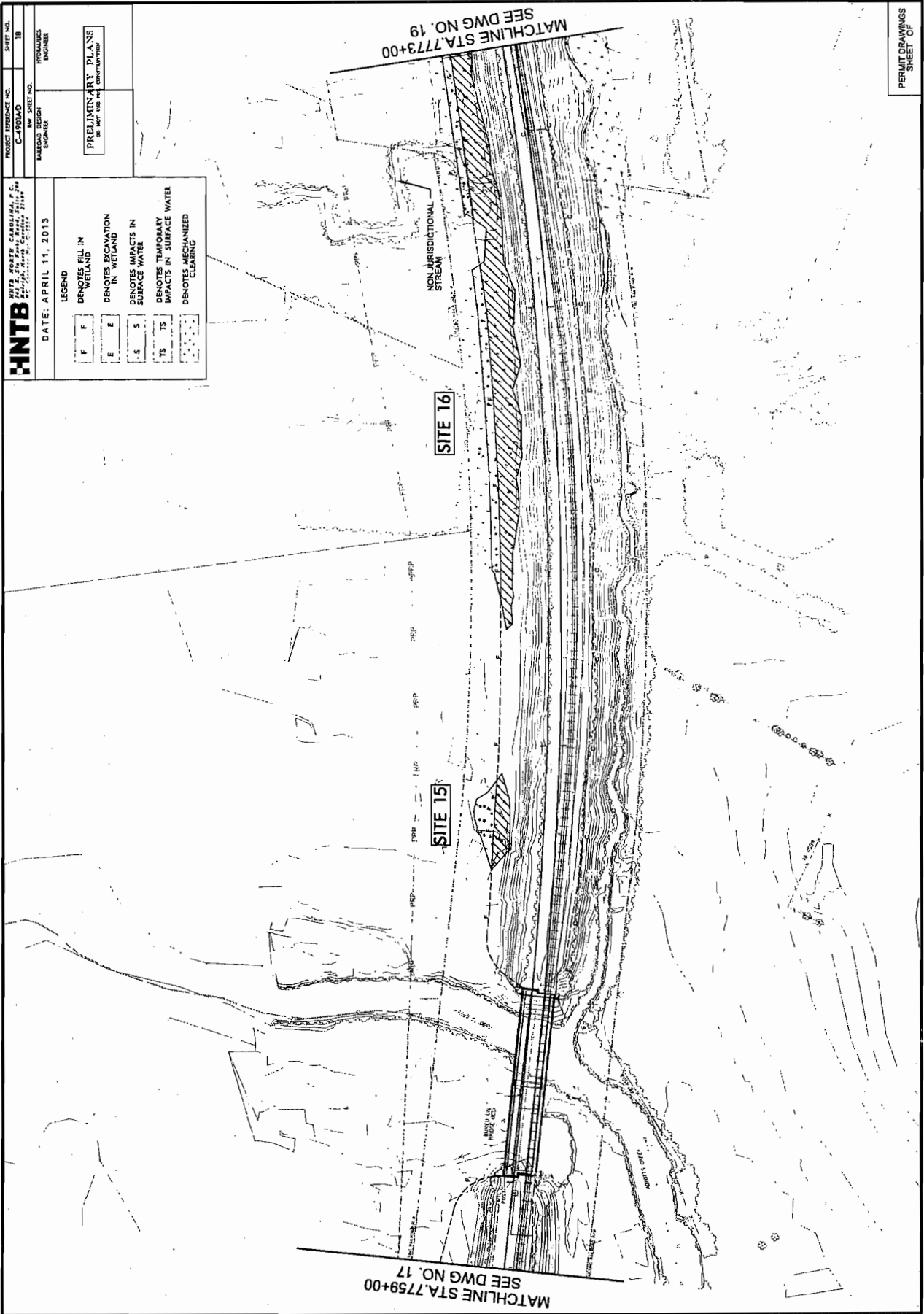
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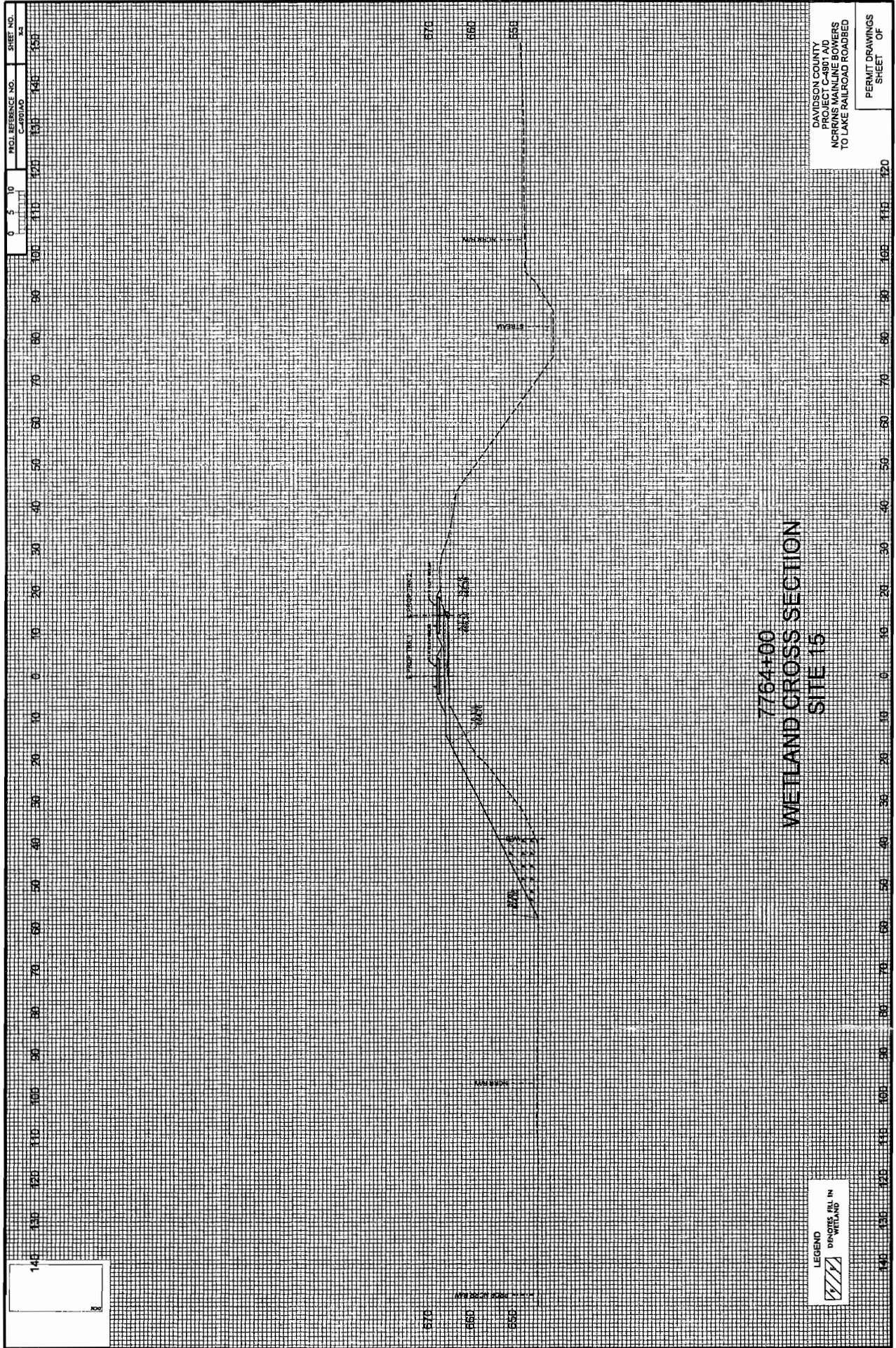
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SEE DWG NO. 15

MATCHLINE STA. 7745+00
SEE DWG NO. 17



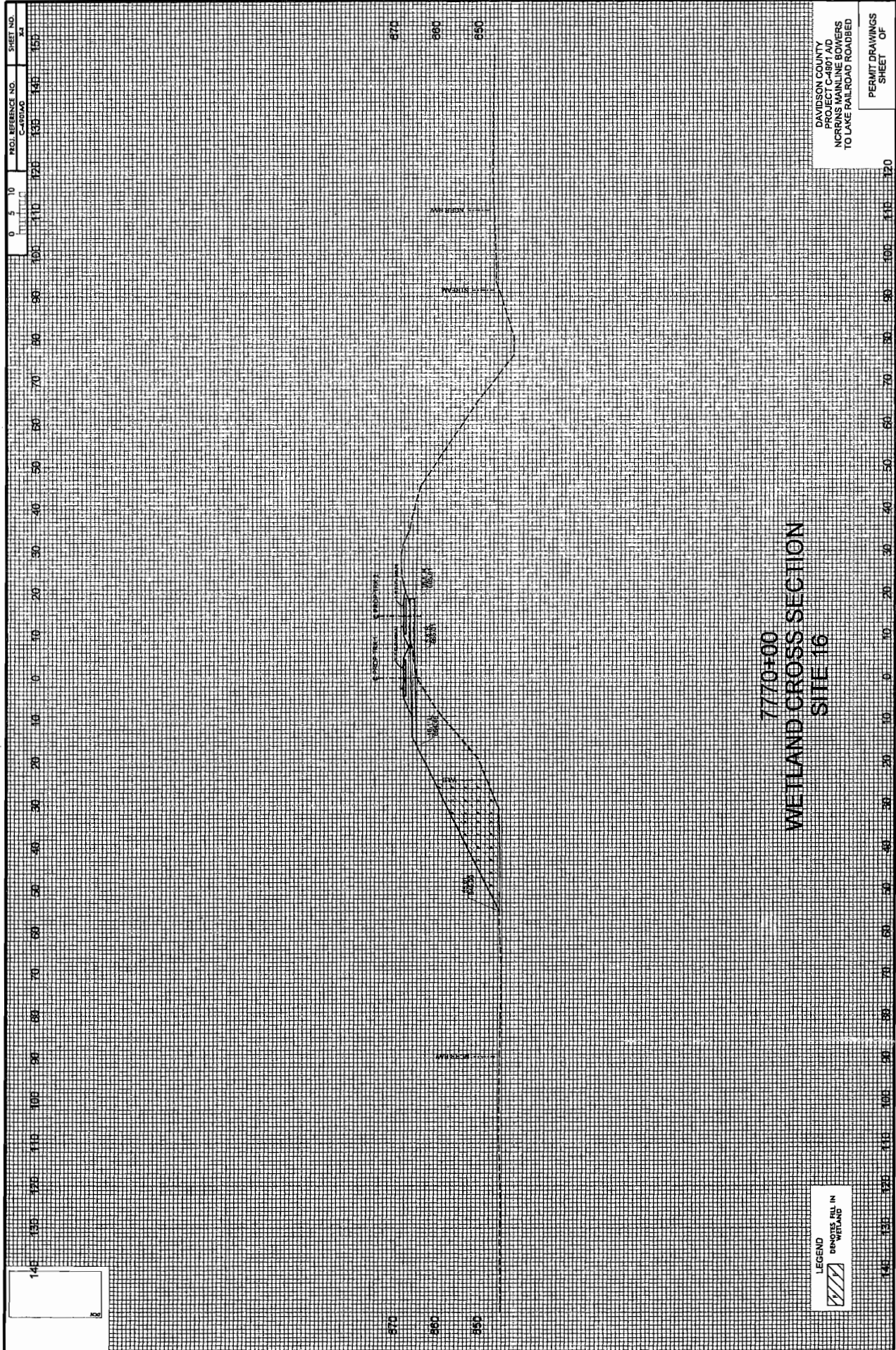






DAVIDSON COUNTY
NCFRANS MAINLINE ROWWERS
TO LAKE RAILROAD ROADBED

PERMIT DRAWINGS
SHEET OF

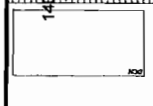


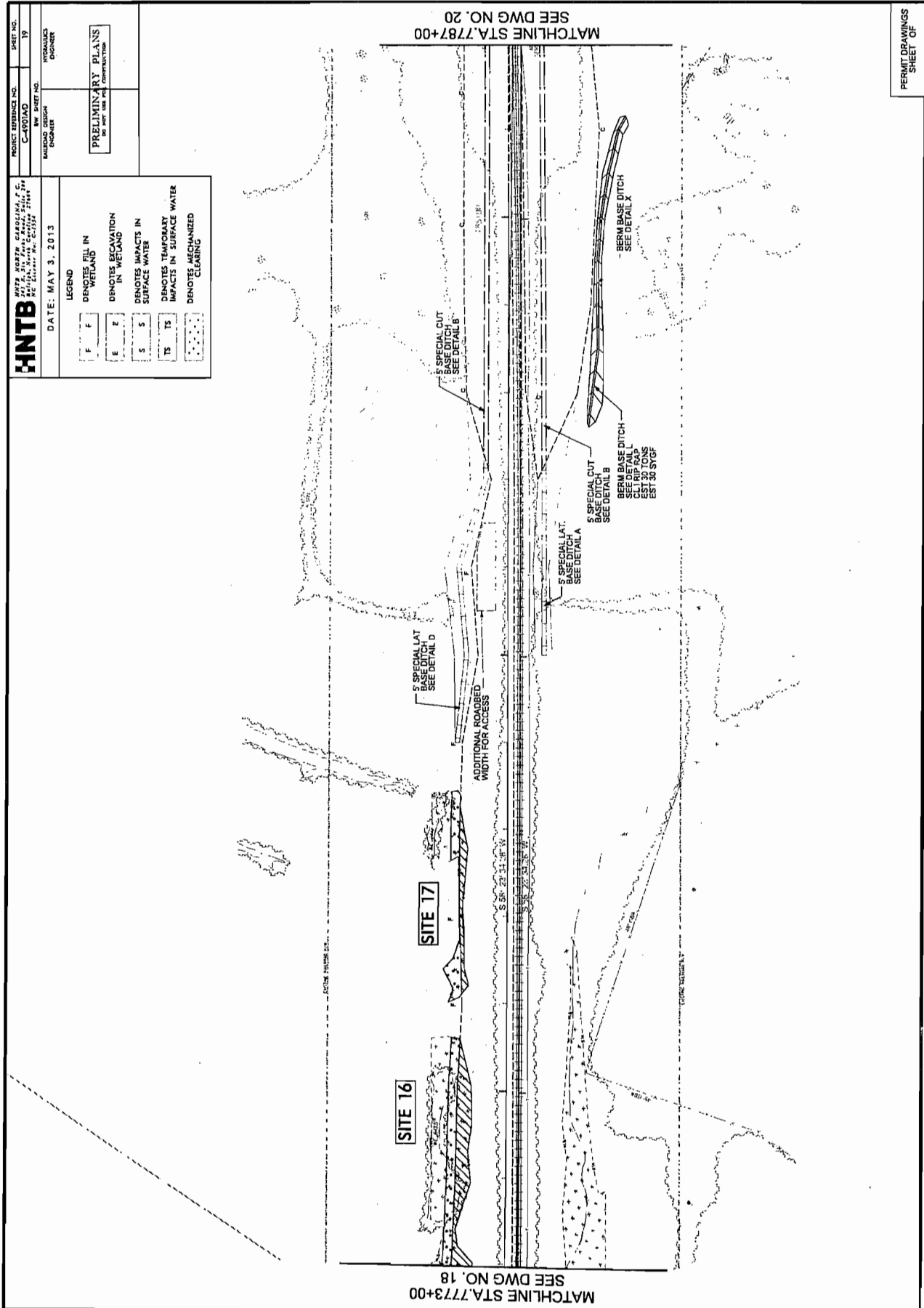
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SHEET NO. 24

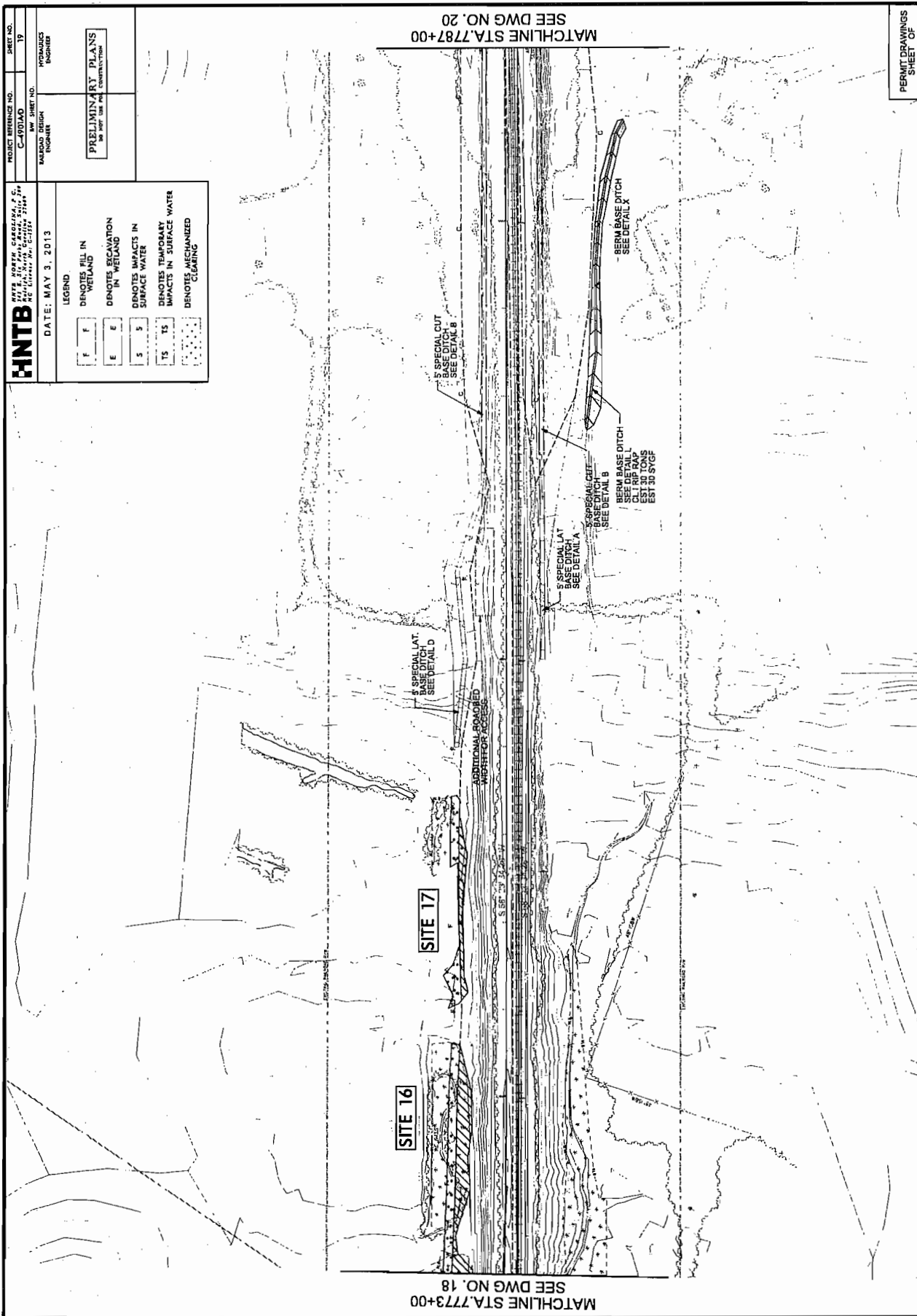
DAVIDSON COUNTY
PROJECT C-891 AD
NCRIMS MAINLINE BOWERS
TO LAKE RAILROAD ROADBED
PERMIT DRAWINGS
SHEET OF

7770+00
WETLAND CROSS SECTION
SITE 16

LEGEND
DENOTES RW IN WETLAND







PROJECT MESSAGE NO. C-1001AD	SHEET NO. 17
RAILROAD DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS FOR POST-CONSTRUCTION	

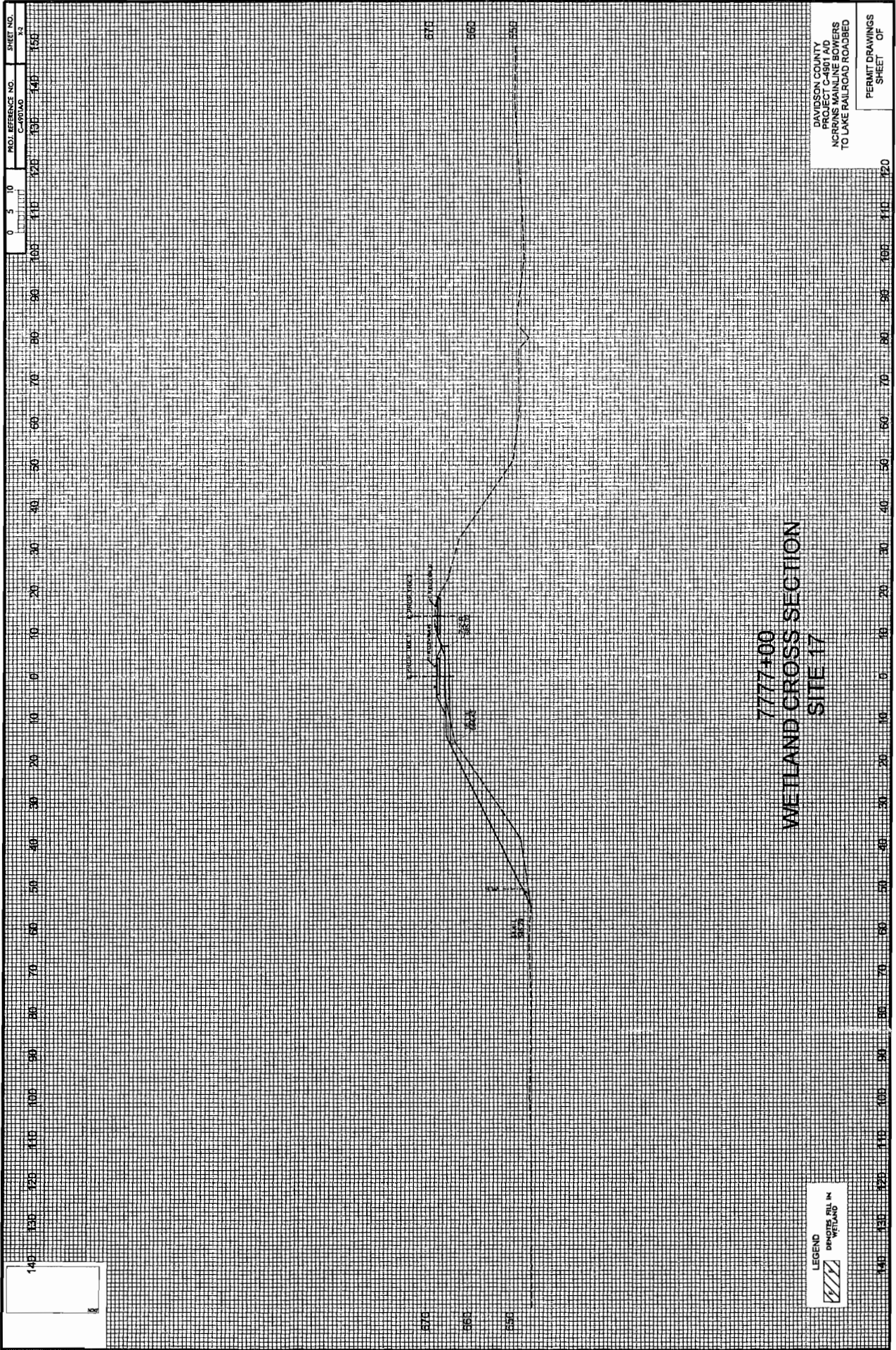
HNTB
 HNTB CONSULTANTS, INC.
 11000 WEST 15TH AVENUE, SUITE 200
 DENVER, COLORADO 80202
 PHONE: 303.751.4000
 FAX: 303.751.4001
 WWW.HNTB.COM

DATE: MAY 3, 2013

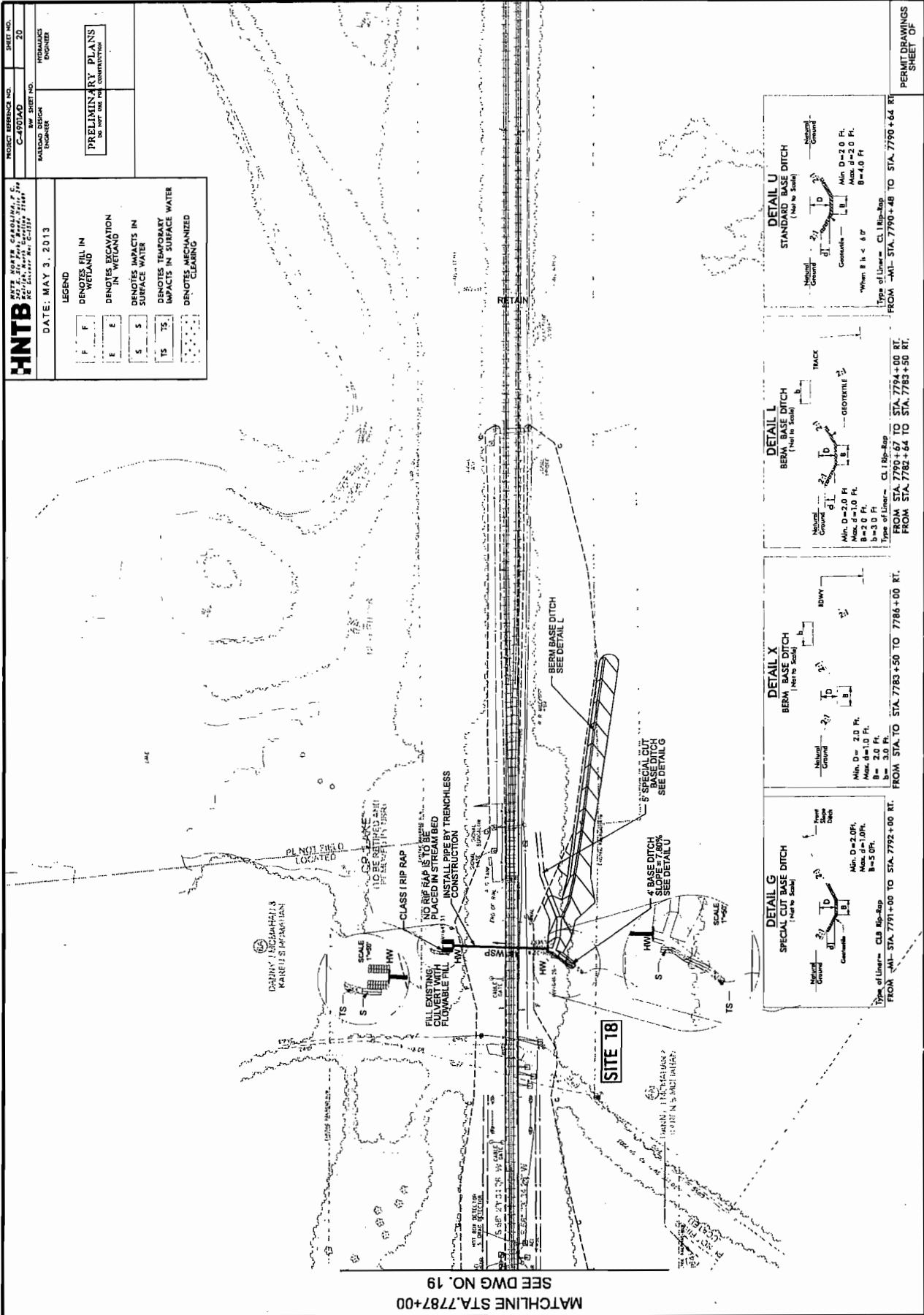
LEGEND

- F DENOTES FILL IN WETLAND
- E DENOTES EXCAVATION IN WETLAND
- S DENOTES IMPACTS IN SURFACE WATER
- TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- TS DENOTES MECHANIZED CLEANING

PERMIT DRAWINGS
SHEET OF



0248DEL_P10C1
0001ADD_P10C1
NEW 6-11-13



MATCHLINE STA. 7787+00
SEE DWG NO. 19

SITE 18

PERMIT DRAWINGS
SHEET 01

