



US Army Corps
Of Engineers
Wilmington District

PUBLIC NOTICE

Issue Date: January 30, 2013
Comment Deadline: February 28, 2013
Corps Action ID #: SAW-2009-01730
TIP Project No. C-4901 A, D

The Wilmington District, Corps of Engineers (Corps) has received an application from Mr. Marc Hamel of the North Carolina Department of Transportation Rail Division (NCDOT Rails), seeking a Department of the Army permit authorization for permanent impacts to 1154 linear feet of jurisdictional stream channels and 3.48 acres of jurisdictional wetlands adjacent to Jimmy's Creek which is a tributary of the Yadkin River, associated with the proposed safety 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 NCDOT Rails has identified this project as TIP Project C-4901A, D.

Specific plans, alternatives, and locations are described below and shown on the attached plans. This Public Notice and all attached plans are also available on the Wilmington District Web Site at

<http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx>

Applicant: N C Department of Transportation; Rail Division
Attn: Mr. Marc Hamel
1553 Mail Service Center
Raleigh, NC 27699-1553

Authority

The Corps will evaluate this application and decide whether to issue, conditionally issue, or deny the proposed work pursuant to applicable procedures of Section 404(b) of the Clean Water Act (33U.S.C. 1344).

Location

The project area associated with the C-4901 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 part of

the Yadkin River Basin (U.S. Geological Survey [USGS] Hydrologic Unit [HUC] 03040103). The approximate midpoint of the project is located at 35.8453° N., -80.1806° W.

Existing Site Conditions

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. NCDOT Rails 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. In addition, the alignments of specific curves in this section inhibit the ability to achieve high speed passenger train service.

The rail corridor is located southwest of Thomasville to just northeast of Lexington running adjacent to Jimmy's Creek in rolling topography consisting of open ridges and wooded valleys typical of the North Carolina Piedmont. Land use in the area around the rail corridor is mostly industrial with an active granite quarry, an asphalt plant, and a county landfill with a few rural residential properties including a trailer park located at the Lower Lake Road crossing.

Axiom Environmental, Inc., consultants for NCDOT Rails, conducted a jurisdictional delineation of the proposed project property. Mr. John Thomas of the Raleigh Regulatory Field Office, Wilmington District Corps of Engineers conducted site inspections with ECS Carolinas consultants to verify these jurisdictional delineations on May 4, 2010.

Applicant's Stated Purpose

This project will improve overall corridor capacity and improve passenger train schedule reliability by allowing freight and passenger trains to quickly and efficiently maneuver past one other. In addition, the implementation of this project is intended to provide a combination of alignment and safety improvements to provide high speed passenger service on one of the most heavily traveled railroads in the state.

Project Description

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.

Based upon 65 percent plans dated November 15, 2012, and Permit Drawings dated December 6, 2012, the project is anticipated to permanently impact approximately 1154 linear feet of streams and approximately 3.48 acres of jurisdictional wetland areas. In addition to jurisdictional wetlands, one isolated wetland area is anticipated to receive 0.53 acre of impact. All impacts to jurisdictional streams and jurisdictional and isolated wetland areas are anticipated in conjunction with the C-4901A portion of the project. The attached Permit Drawings depict the locations and extents of jurisdictional and isolated area impacts, and the attached Wetland Permit Impact Summary provides details of impacts at each impact site.

Compensatory mitigation for this project is anticipated from warm water stream and riparian wetland mitigation credits from the NCEEP. Based upon agreements stipulated in the "Memorandum of Agreement Among the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the United States Army Corps of Engineers, Wilmington District" (MOA), it is understood that the NCEEP will assume responsibility for satisfying the remainder of Clean Water Act compensatory mitigation requirements for this project (1,474 warm-water stream mitigation credits and 6.77 riparian wetland mitigation credits). The offsetting mitigation provided by the NCEEP will derive from an inventory of assets already in existence within U.S. Geological Survey (USGS) Hydrologic Unit (HU) 03040103. A Mitigation Acceptance Letter from the NCEEP, dated January 4, 2013, was included in the permit request package.

Detailed Study Alternatives

The ranges of alternatives that have been considered include the No-Build Alternative, Alternate Mode of Transportation Alternative, and the Build Alternative within the existing rail corridor that consist of the Best-Fit improvements to the existing facility. After a preliminary evaluation, it was determine that the Best-Fit alternative should be carried forward for detailed study due to its ability to meet the stated Purpose and Need.

Other Required Authorizations

This notice and all applicable application materials are being forwarded to the appropriate State agencies for review. The Corps will generally not make a final permit decision until the North Carolina Division of Water Quality (NCDWQ) issues, denies, or waives State certification required by Section 401 of the Clean Water Act (PL 92-500). The receipt of the application and this public notice combined with appropriate application fee at the North Carolina Division of Water Quality central office in Raleigh will constitute initial receipt of an application for a 401 Water Quality Certification. A waiver will be deemed to occur if the NCDWQ fails to act on this request for certification within sixty days of the date of the receipt of this notice in the NCDWQ Central Office. Additional information regarding the Clean Water Act certification may be reviewed at the NCDWQ Central Office, 401 Oversight and Express Permits Unit, 2321 Crabtree Boulevard, Raleigh, North Carolina 27604-2260. All persons desiring to make comments regarding the application for certification under Section 401 of the Clean Water Act should do so in writing delivered to the North Carolina Division of Water Quality (NCDWQ), 1650 Mail Service Center, Raleigh, North Carolina 27699-1650 Attention: Ms. Karen Higgins by February 19, 2013.

Essential Fish Habitat

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. The Corps' initial determination is that the proposed project will not adversely impact EFH or associated fisheries managed by the South Atlantic or Mid Atlantic Fishery Management Councils or the National Marine Fisheries Service.

Cultural Resources

The Corps has consulted the latest published version of the National Register of Historic Places and is not aware that any registered properties, or properties listed as being eligible for inclusion therein are located within the project area or will be affected by the proposed work. Presently, unknown archeological, scientific, prehistoric, or historical data may be located within the project area and/or could be affected by the proposed work.

Endangered Species

The Corps has reviewed the project area, examined all information provided by the applicant and consulted the latest North Carolina Natural Heritage Database. Based on available information, the Corps is not aware of the presence of species listed as threatened or endangered or their critical habitat formally designated pursuant to the Endangered Species Act of 1973 within the project area. A final determination on the effects of the proposed project will be made upon additional review of the project and completion of any necessary biological assessment and/or consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service.

Evaluation

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values (in accordance with Executive Order 11988), land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving the discharge of dredged or fill materials in waters of the United States, the evaluation of the impact of the activity on the public interest will include application of the Environmental Protection Agency's 404(b)(1) guidelines.

Commenting Information

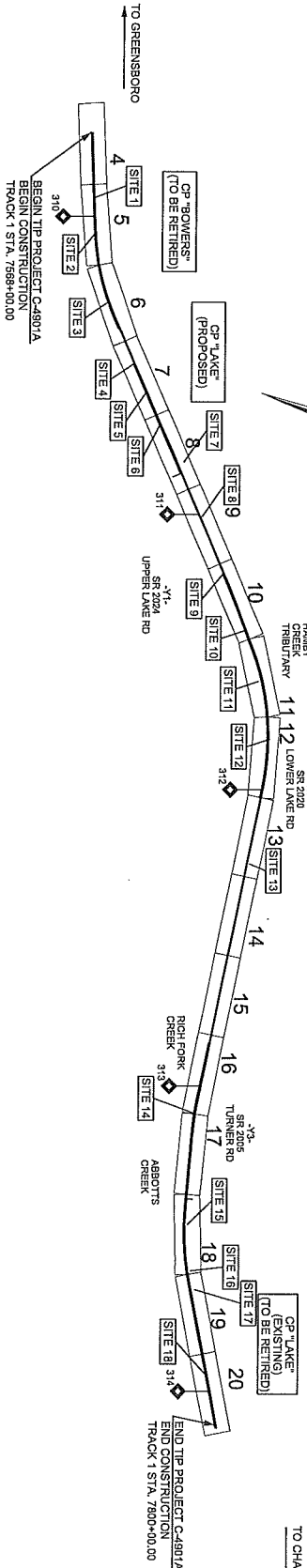
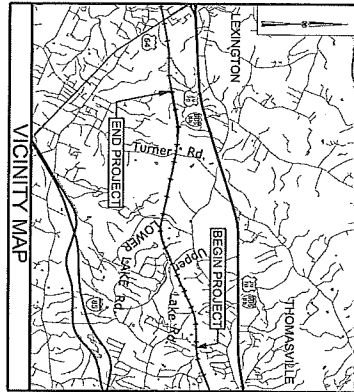
The Corps of Engineers is soliciting comments from the public; Federal, State and local agencies and officials, including any consolidate State Viewpoint or written position of the Governor; Indian Tribes and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Requests for a public hearing shall be granted, unless the District Engineer determines that the issues raised are insubstantial or there is otherwise no valid interest to be served by a hearing.

Written comments pertinent to the proposed work, as outlined above, will be received by the Corps of Engineers, Wilmington District, until 5pm, February 28, 2013. Comments should be submitted to John Thomas, Raleigh Regulatory Field Office, 3331 Heritage Trade Drive, Suite 105, Wake Forest, North Carolina 27587.

CONTRACT: C203160

TIP PROJECT: C-4901A



WETLAND AND STREAM IMPACTS

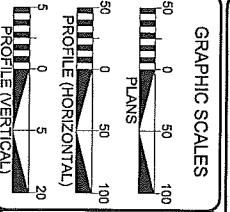
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

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

NC DOT
RAIL DIVISION
DAVIDSON COUNTY



STATE	PROJECT IDENTIFICATION NO.	SHEET NO.	TOTAL SHEETS
N.C.	C-4901A	1	1
PROJECT NUMBER	DATE	DESIGNER	ROW
49010.1,STR0321B	1.4.2013	P.E.	UTIL. & CONST.
43219.2,STR02C4901			
49010.3,STR011A			



PROJECT LENGTH	4.302 MILES
LENGTH OF RAIL TIP PROJECT	0.092 MILES
LENGTH OF STRUCTURES TIP PROJECT	4.394 MILES
TOTAL LENGTH OF TIP PROJECT	

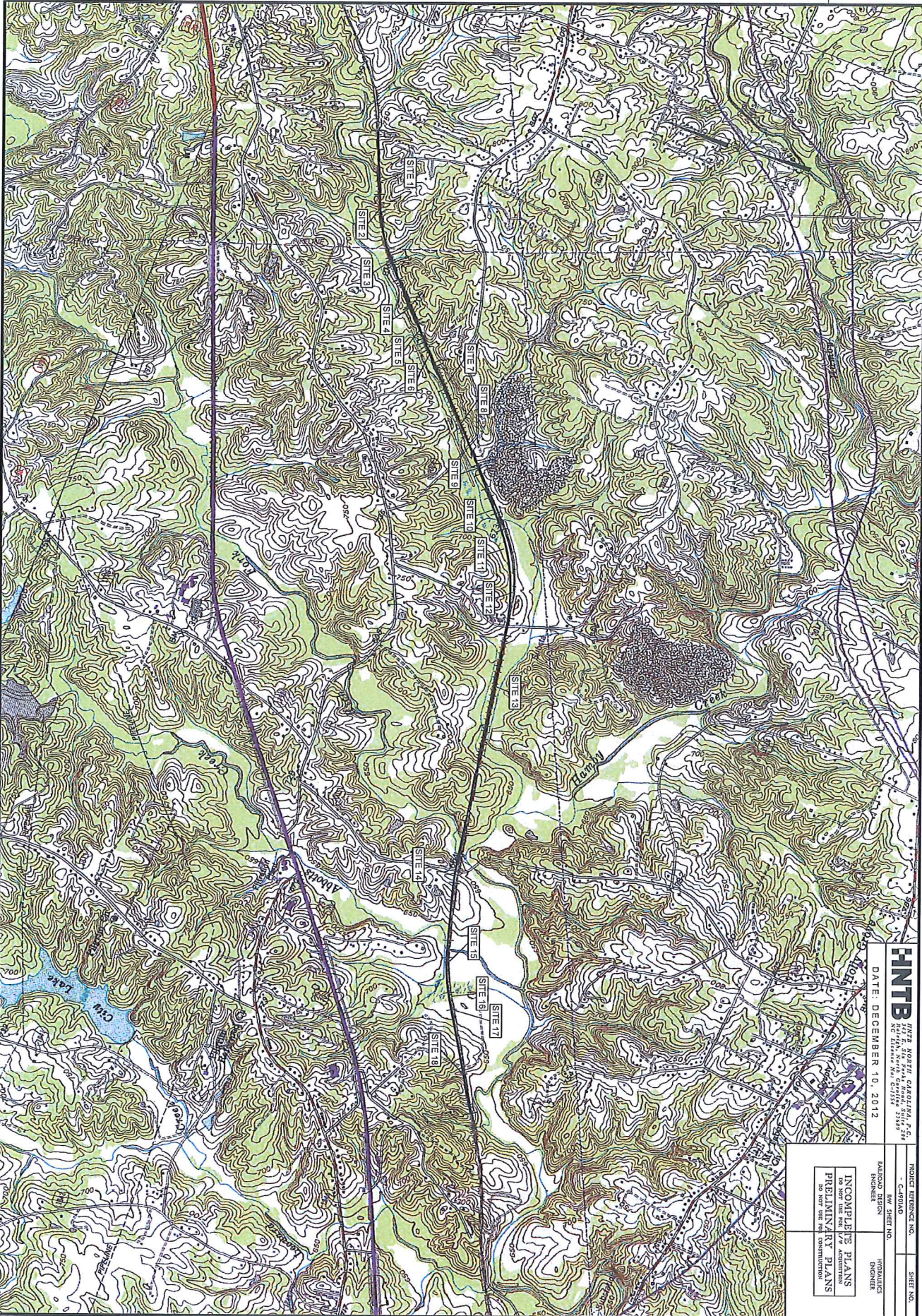
HNTB
HNTB NORTH CAROLINA, P.C.
240 E. 5TH ST., SUITE 200
Raleigh, NC 27601
Phone: 919.781.1000
Fax: 919.781.1001
www.hntb.com

Prepared in his office of:
COREY VERNIER, P.E.
RAIL PROJECT ENGINEER
ENRICO ROQUE, P.E.
RAIL PROJECT ASSISTANT ENGINEER
DAVID HAWKINS, P.E.
STRUCTURAL PROJECT ENGINEER
JAMES BYRD, P.E.
HYDRAULICS PROJECT ENGINEER
JASON ORTHNER, P.E.
NEWPORT PROJECT MANAGER

RAIL ENGINEER	HYDRAULICS ENGINEER
_____ P.E.	_____ P.E.

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION
100 SOUTH WEST MARKET STREET
RAIL DIVISION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWINGS
DATE: DECEMBER 10, 2012

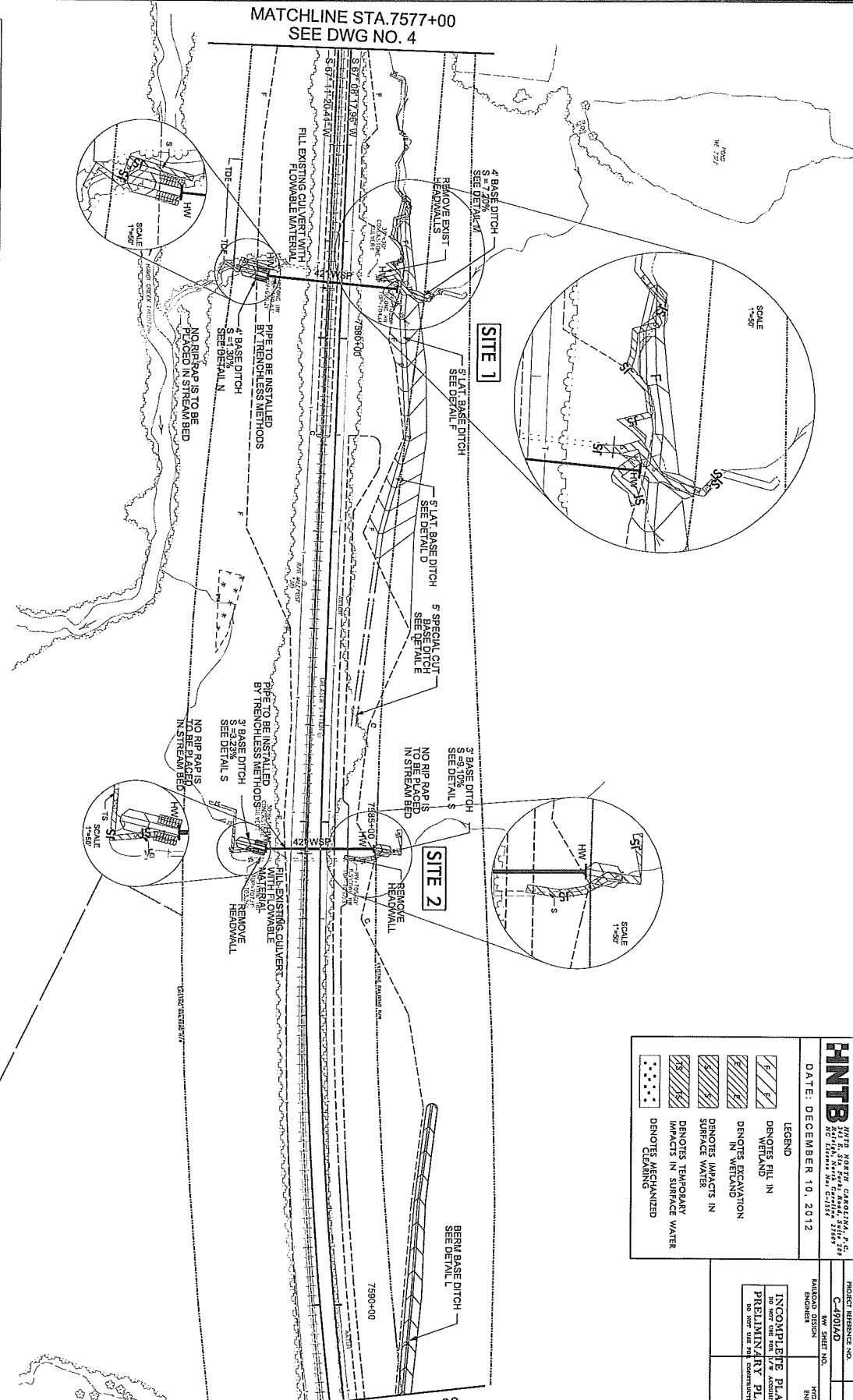


HNTB
 DATE: DECEMBER 10, 2012

PROJECT REFERENCE NO.	SHEET NO.
... CADD	
DESIGNER	ENGINEER
INCOMPLETE PLANS DO NOT USE FOR PERMITS PRELIMINARY PLANS IN THE STATE OF VERMONT	

MATCHLINE STA. 7577+00
SEE DWG NO. 4

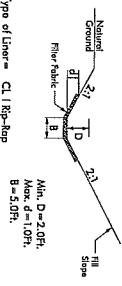
MATCHLINE STA. 7591+00
SEE DWG NO. 6



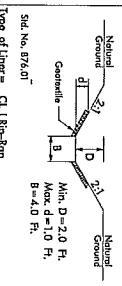
SITE 1

SITE 2

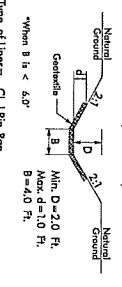
DETAIL F
SPECIAL LATERAL BASE DITCH
(Not to Scale)



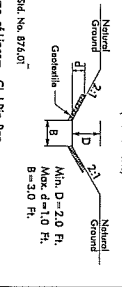
DETAIL N
STANDARD BASE DITCH
(Not to Scale)



DETAIL M
STANDARD BASE DITCH
(Not to Scale)



DETAIL S
STANDARD BASE DITCH
(Not to Scale)



LEGEND

	DENOTES FILL IN WETLAND
	DENOTES EXCAVATION IN WETLAND
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEANSING

HNTB
NORTH HAVEN, CONNECTICUT, U.S.A.
101 S. MAIN STREET, SUITE 2100
NORTH HAVEN, CT 06460
PHONE: 203.938.1100
FAX: 203.938.1101
WWW.HNTB.COM

DATE: DECEMBER 10, 2012

PROJECT REFERENCE NO. C-4901AD
SHEET NO. 05

RAILROAD DESIGN ENGINEER
HYDRAULICS ENGINEER

INCOMPLETE PLANS
PRELIMINARY PLANS
DO NOT CONSIDER FOR CONSTRUCTION

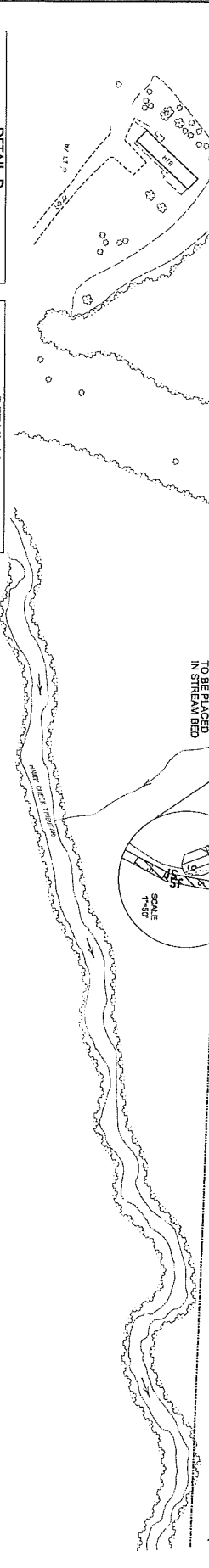
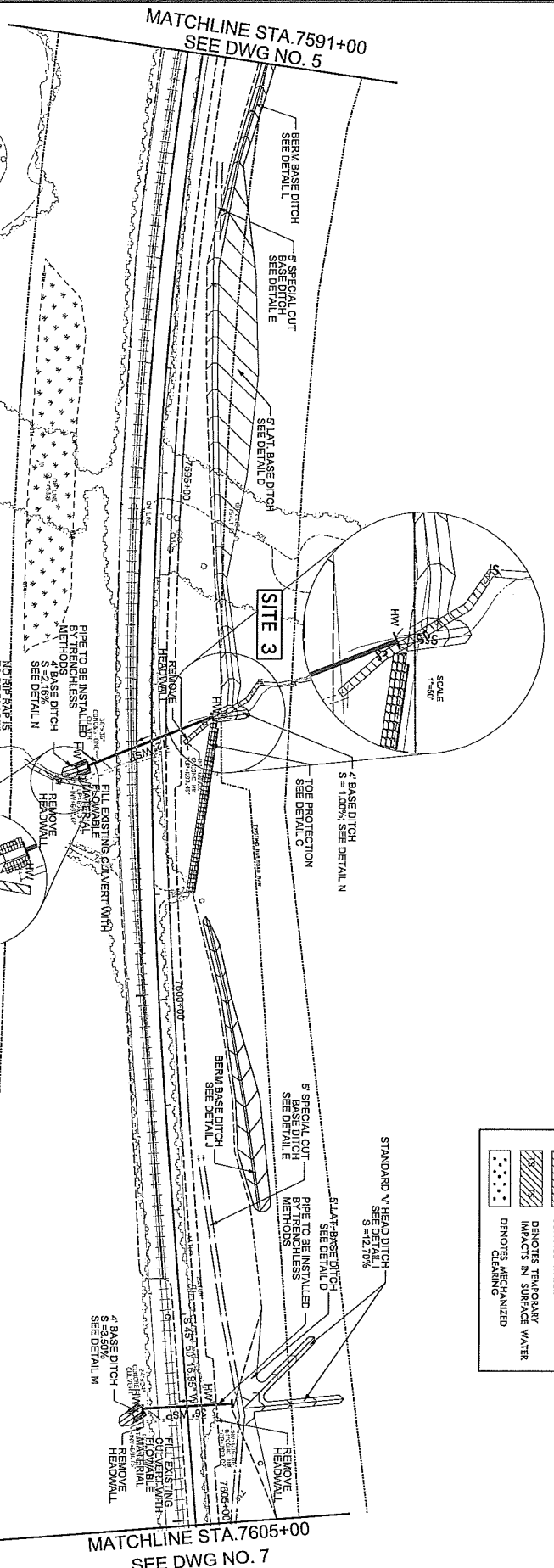
PERMIT DRAWINGS
SHEET OF

HNTB
 HNTB NORTH CAROLINA, P.C.
 101 E. 5TH ST., SUITE 200
 WILMINGTON, NC 28401
 PHONE: 910.762.1111
 FAX: 910.762.1112

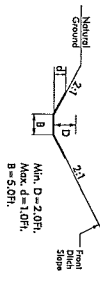
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LEGEND	
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	DENOTES EXCAVATION IN WETLAND
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEANING

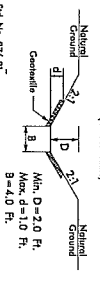
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 SHEET NO. 06
 HNTB
 ENGINEER
 HNTB
 ENGINEER
 INCOMPLETE PLANS
 PRELIMINARY PLANS
 NO USE FOR CONSTRUCTION



DETAIL D
 SPECIAL LATERAL BASE DITCH
 (Not to Scale)



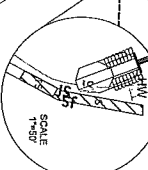
DETAIL N
 STANDARD BASE DITCH
 (Not to Scale)



Type of Liner = 159A
 FROM STA. 7592+50 TO STA. 7597+29 LT.

Type of Liner = C.I. Rip-Rap
 STA. 7597+30 LT.
 STA. 7597+88 RT.

PIPE TO BE INSTALLED
 METHODS
 4" BASE DITCH
 SEE DETAIL N



SITE 3

4" BASE DITCH
 S = 1.00%; SEE DETAIL N

STANDARD V HEAD DITCH
 SEE DETAIL I
 S = 12.70%

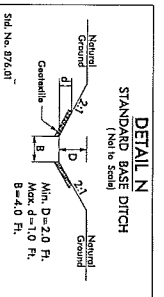
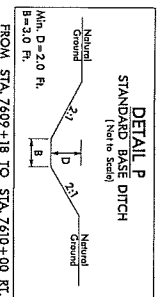
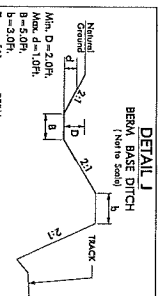
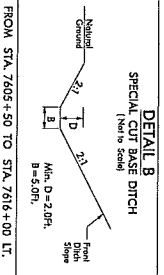
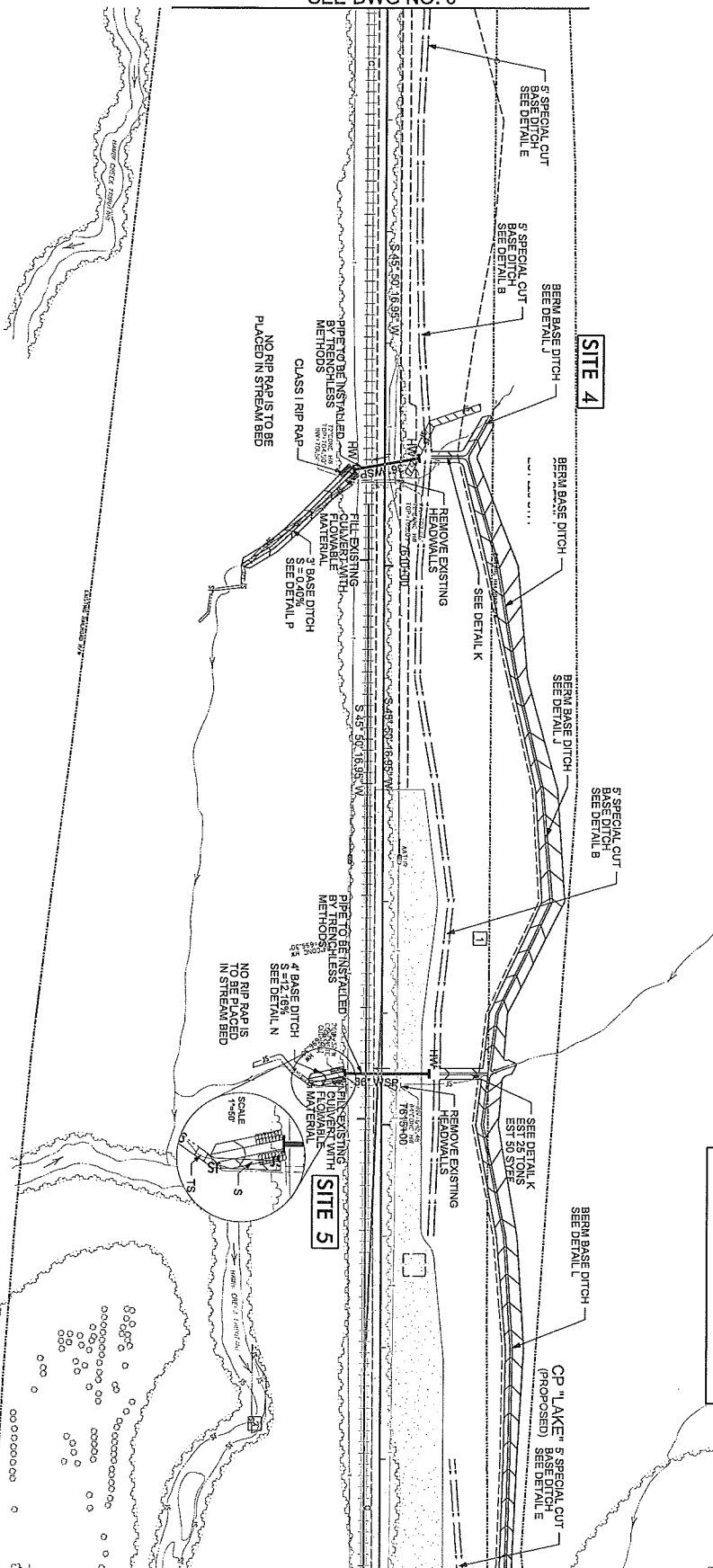
MATCHLINE STA. 7605+00
 SEE DWG NO. 7

MATCHLINE STA. 7591+00
 SEE DWG NO. 5

PERMIT DRAWINGS
 SHEET OF

MATCHLINE STA.7605+00
SEE DWG NO. 6

MATCHLINE STA.7619+00
SEE DWG NO. 8



	DENOTES FILL IN WETLAND
	DENOTES EXCAVATION IN WETLAND
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEANING

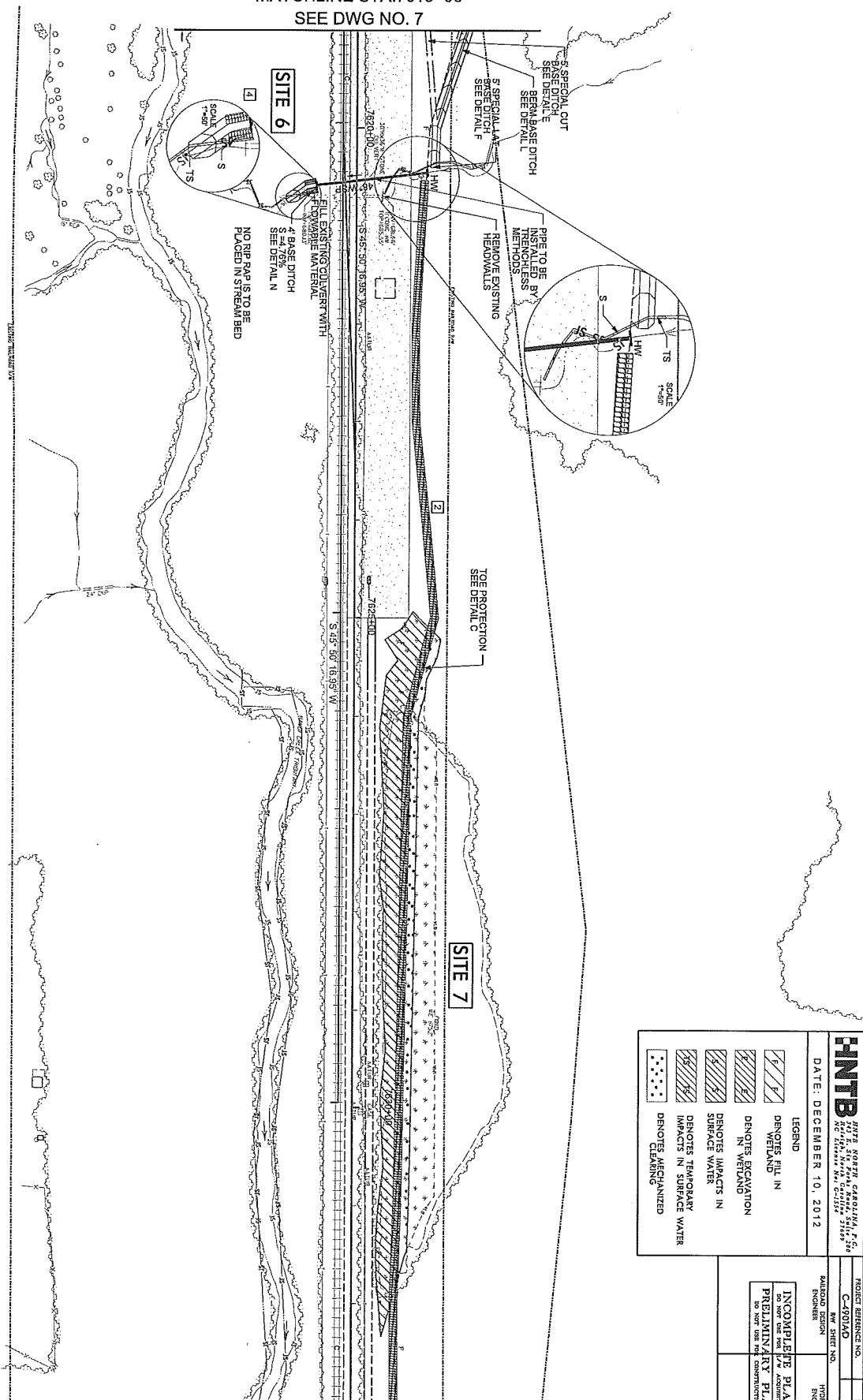
HNTB HNTB NORTH CAROLINA, P.C.
501 S.W. 7th Avenue, Suite 2100
Fort Lauderdale, FL 33315
REG. ENGINEER NO. C-1154

DATE: DECEMBER 10, 2012

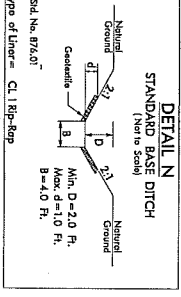
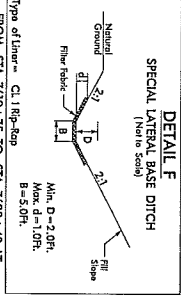
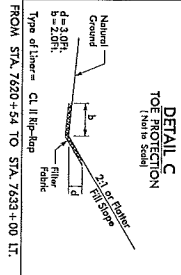
MOSBY REFERENCE NO.	SHEET NO.
C-4901AD	07
RAJAGOPAL DESIGN GROUP	PROJECT NO.
INCOMPLETE PLANS	PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWINGS
SHEET OF

MATCHLINE STA.7619+00
SEE DWG NO. 7



MATCHLINE STA.7633+00
SEE DWG NO. 9



HNTB
HNTB ENGINEERING, INC.
10000 W. 16th Ave., Suite 200
Denver, CO 80202
Tel: 303.750.0000
Fax: 303.750.0001

DATE: DECEMBER 10, 2012

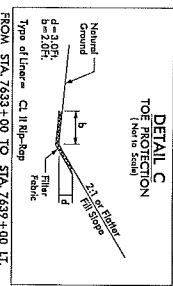
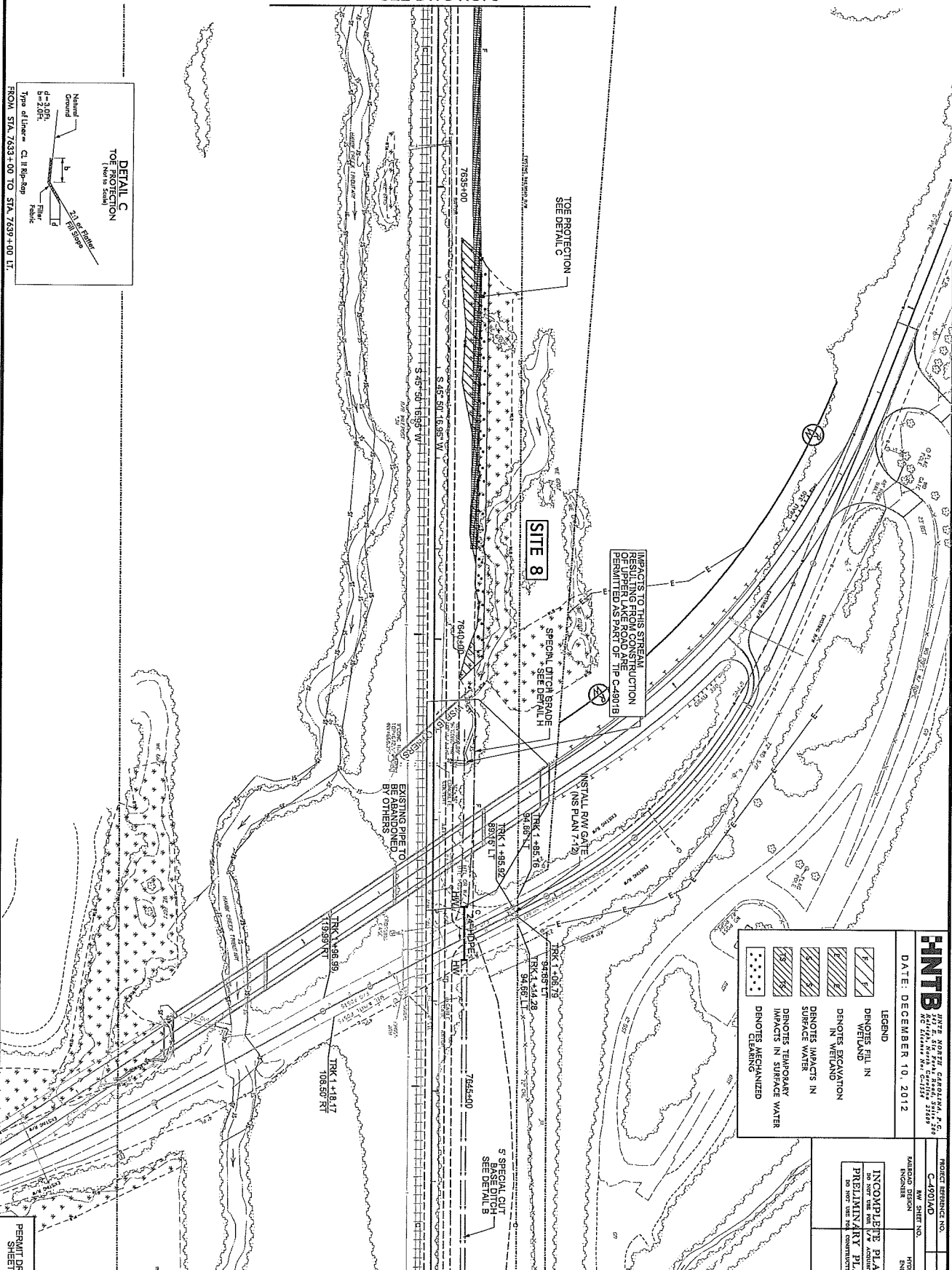
LEGEND

	DENOTES FILL IN WETLAND
	DENOTES EXCAVATION IN WETLAND
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING

PROJECT REFERENCE NO. C-4501AD	SHEET NO. 08
DESIGNED BY R. J. BROWN	CHECKED BY M. J. BROWN
DATE 10/10/12	SCALE AS SHOWN
<p>INCOMPLETE PLANS DO NOT USE FOR CONSTRUCTION PRELIMINARY PLANS NOT FOR CONSTRUCTION</p>	

PERMIT DRAWINGS
SHEET OF

MATCHLINE STA.7633+00
SEE DWG NO. 8



IMPACTS TO THIS STREAM
RESULTING FROM CONSTRUCTION
PERMITTED AS PART OF TIP C-4901B

SITE 8

SPECIAL DITCH GRADE
SEE DETAIL H

INSTALL RW GATE
(NS PLAN 7-12)

EXISTING PIPE TO
BE REINFORCED
BY OTHERS

LEGEND

	DEMOTES FILL IN WETLAND
	DEMOTES EXCAVATION IN WETLAND
	DEMOTES IMPACTS IN SURFACE WATER
	DEMOTES TEMPORARY IMPACTS IN SURFACE WATER
	DEMOTES MECHANIZED CLEANING

HNTB
DATE: DECEMBER 10, 2012

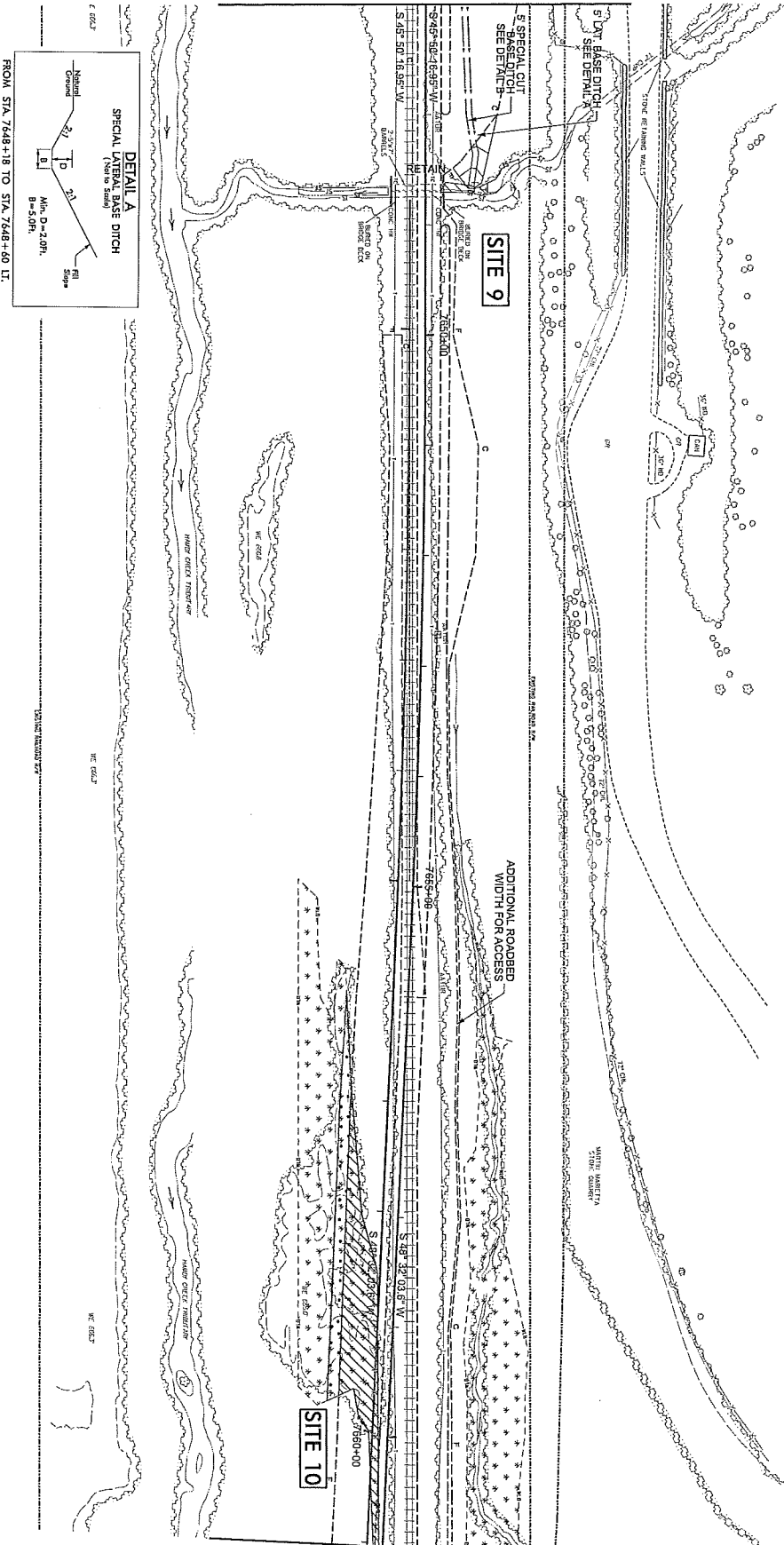
PROJECT REFERENCE NO. C-4901AD
SHEET NO. 09

INCOMPLETE PLANS
DO NOT USE FOR CONSTRUCTION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWINGS
SHEET OF

MATCHLINE STA.7647+00
SEE DWG NO. 10

MATCHLINE STA.7647+00
SEE DWG NO. 9

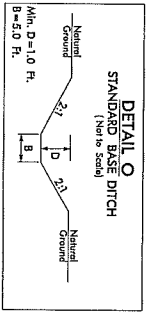
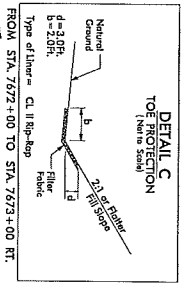
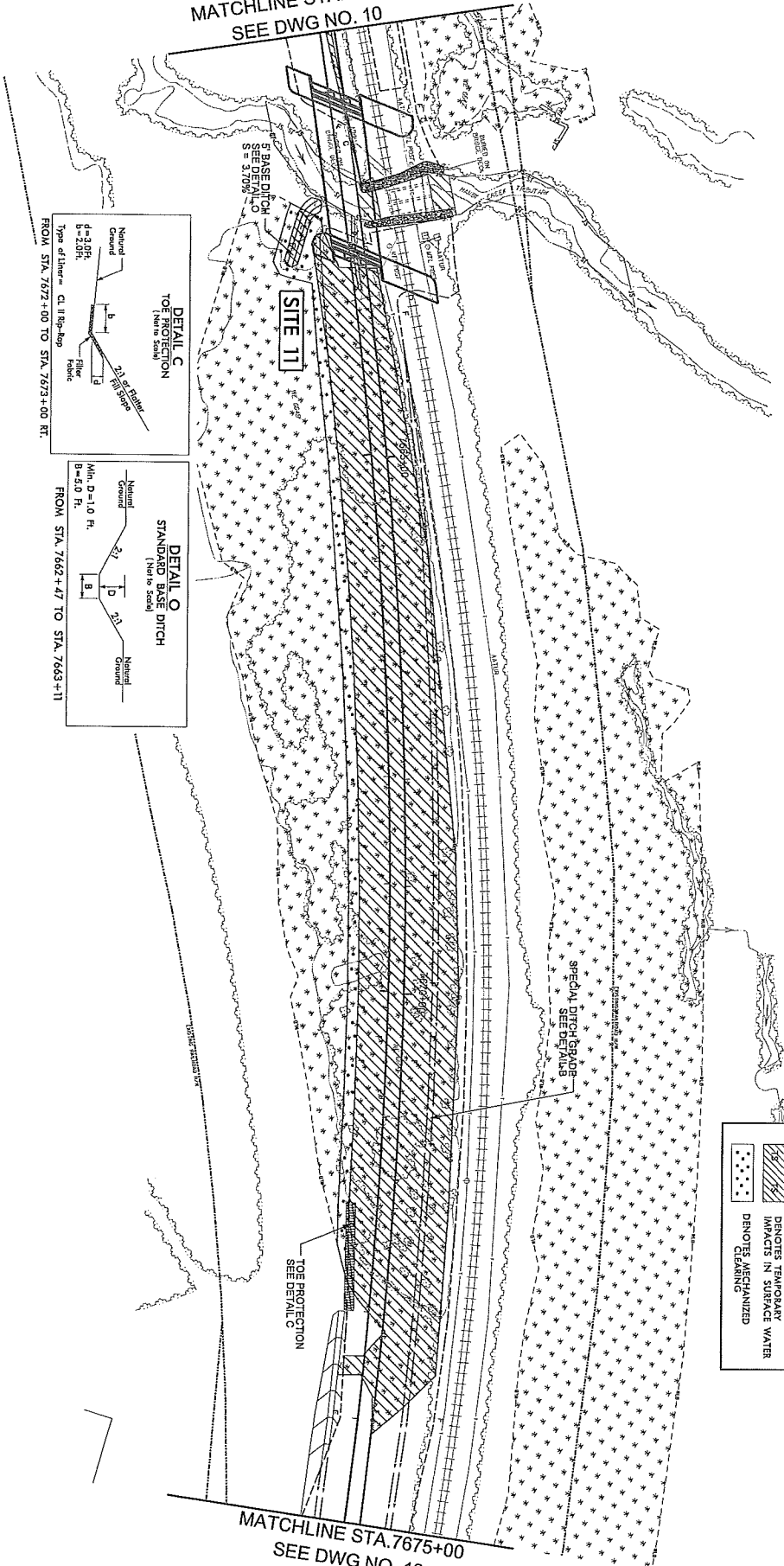


WIRTH MARITTA MATERIALS, INC.

HNTB <small>HUNT ROBERT CARSTENSON, P.E. 101 N. W. PARKWAY, SUITE 1100 WILMINGTON, NC 28403-1100 NC LICENSE NO. 61737</small>		<small>PROJECT REFERENCE NO.</small> C-4910AD	<small>SHEET NO.</small> 10
<small>DATE: DECEMBER 10, 2012</small>		<small>DESIGNED BY</small> INDIAN	<small>HYDRAULICS ENGINEER</small> INDIAN
<small>LEGEND</small>		<small>INCOMPLETE PLANS PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION</small>	
	DENOTES FILL IN WETLAND		
	DENOTES EXCAVATION IN WETLAND		
	DENOTES IMPACTS IN SURFACE WATER		
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER		
	DENOTES MECHANIZED CLEARING		

MATCHLINE STA.7661+00
SEE DWG NO. 11

MATCHLINE STA. 7661+00
SEE DWG NO. 10



LEGEND

	DENOTES FILL IN WETLAND
	DENOTES EXCAVATION IN WETLAND
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING

HNFB
STATE OF NEW HAMPSHIRE
100 WATER STREET, SUITE 200
NORTH CONCORD, NH 03301
TEL: 603-888-7300
FAX: 603-888-7301
WWW.HNFB.NH.GOV

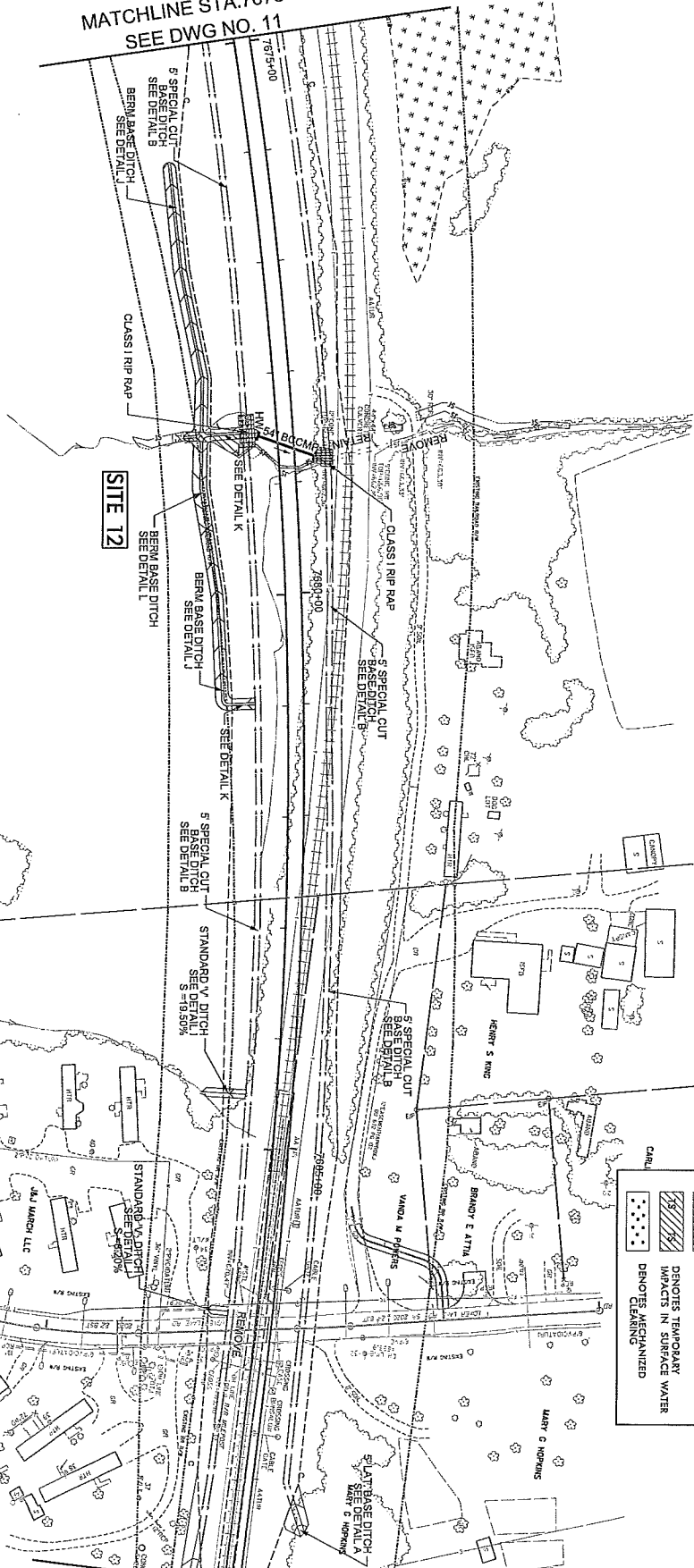
DATE: DECEMBER 10, 2012

PROJECT REFERENCE NO. C-3010AD
SHEET NO. 11

BAROLO DESIGN ENGINEERS
INCOMPLETE PLANS
DO NOT USE FOR CONSTRUCTION

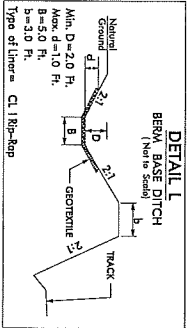
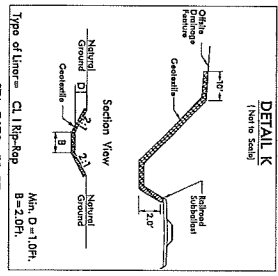
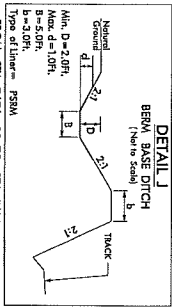
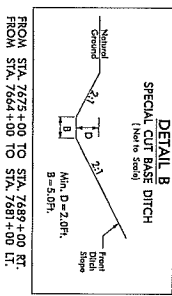
HYDRAULICS ENGINEERS

MATCHLINE STA.7675+00
SEE DWG NO. 11



SITE 12

MATCHLINE STA.7689+00
SEE DWG NO. 13



LEGEND

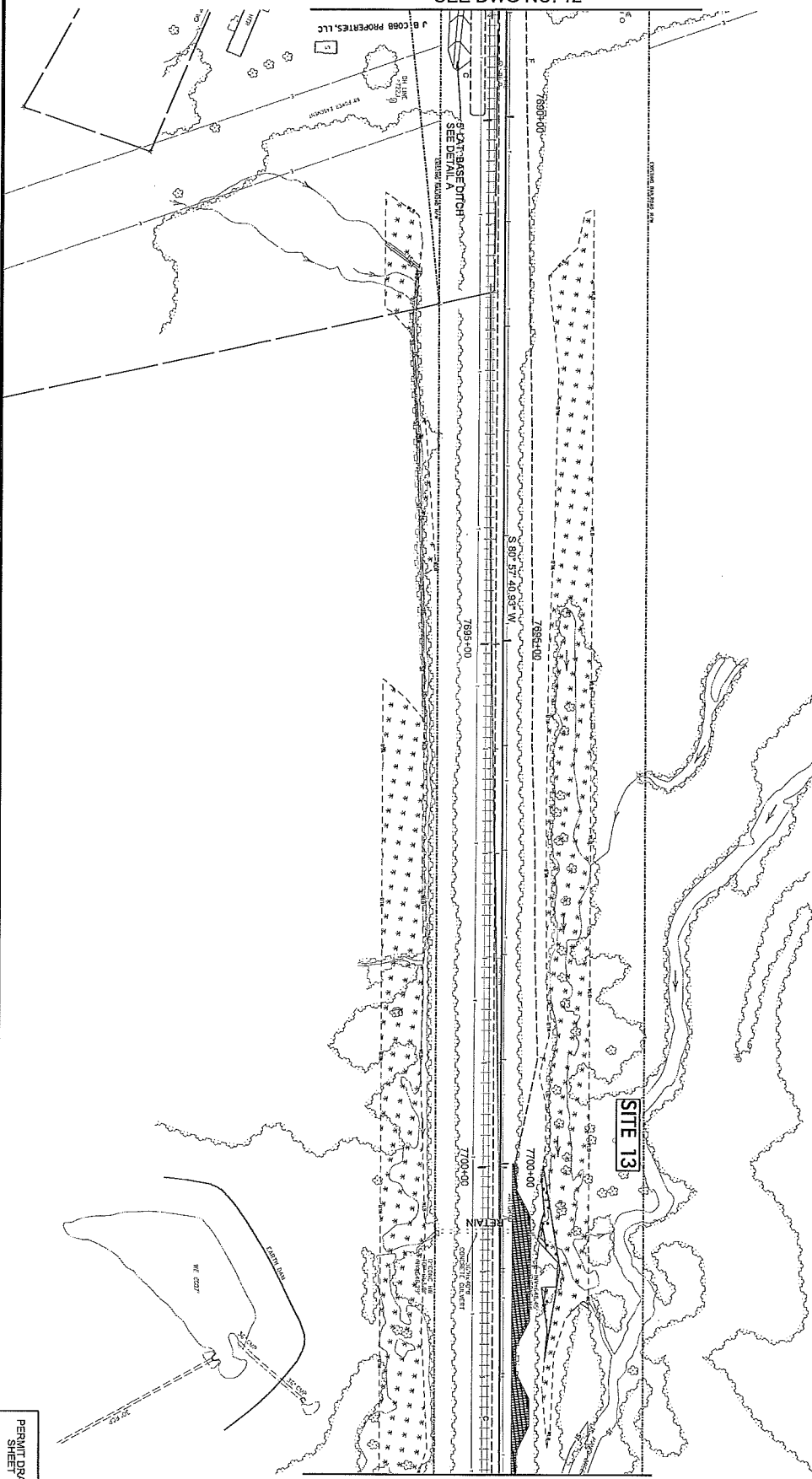
	DENOTES FILL IN WETLAND
	DENOTES EXCAVATION IN WETLAND
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING

HNTB
DATE: DECEMBER 10, 2012

PROJECT REFERENCE NO. C-4970AD
SHEET NO. 12
INCORPORATED PRELIMINARY PLANS
NO REVISIONS FOR CONSTRUCTION

PERMIT DRAINAGES
SHEET 08

MATCHLINE STA. 7689+00
SEE DWG NO. 12

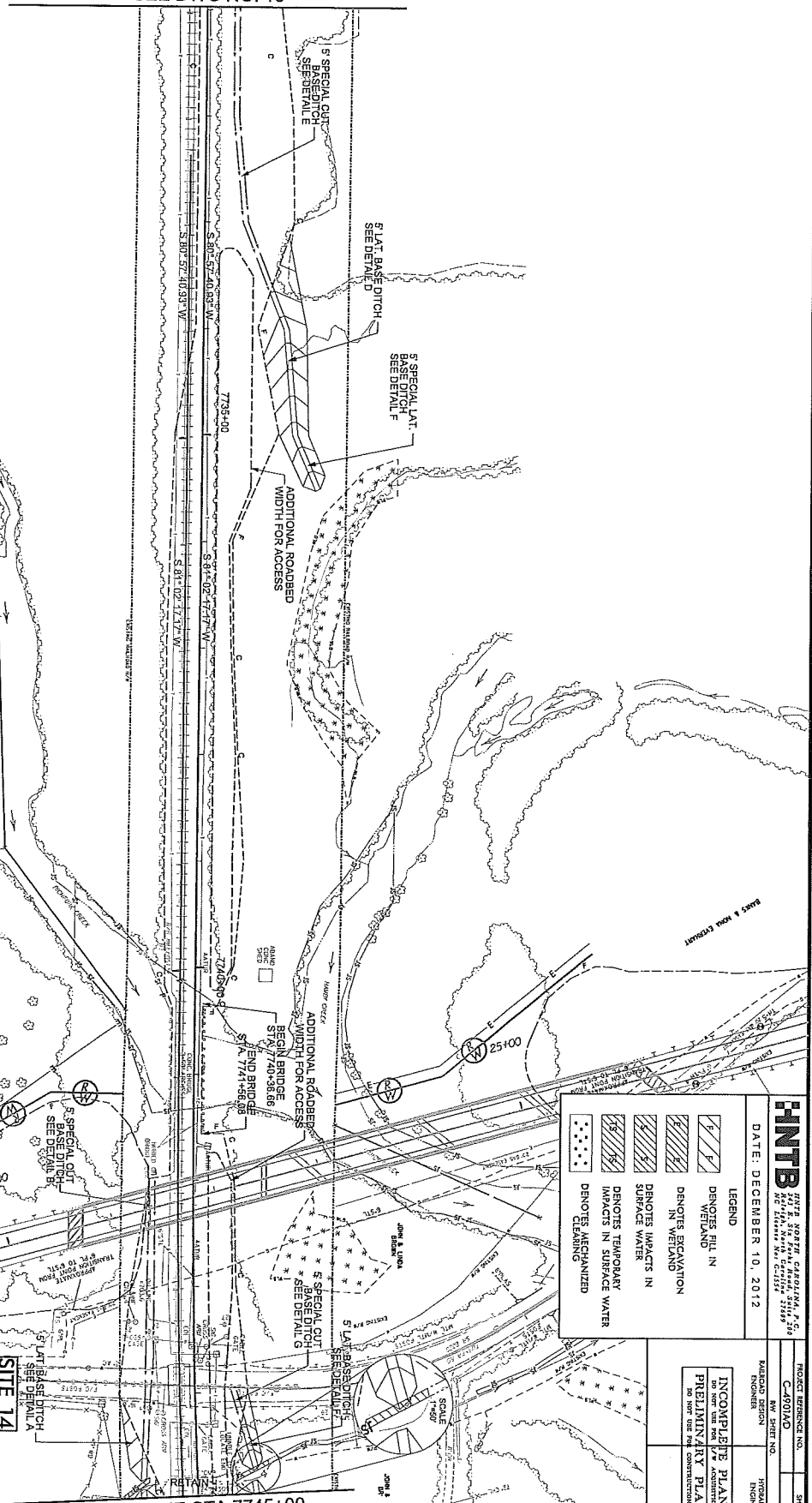


MATCHLINE STA. 7703+00
SEE DWG NO. 14

<p>HNTB <small>HNTB NORTH CAROLINA, P.C. 201 E. IN PAW PAVAN, SUITE 200 NC 27060-1710</small></p>		<p>PROJECT REFERENCE NO. 3 SHEET NO. 13</p>	
<p>DATE: DECEMBER 10, 2012</p>		<p>SCALE: AS SHOWN</p>	
<p>LEGEND</p>		<p>INCOMPLETE PLANS PRELIMINARY PLANS <small>(No later than construction)</small></p>	
	<p>DENOTES FILL IN WETLAND</p>	<p>ROADWAY DESIGN ENGINEER</p>	<p>HYDRAULICS ENGINEER</p>
	<p>DENOTES EXCAVATION IN WETLAND</p>		
	<p>DENOTES IMPACTS IN SURFACE WATER</p>		
	<p>DENOTES TEMPORARY IMPACTS IN SURFACE WATER</p>		
	<p>DENOTES MECHANIZED CLEANING</p>		

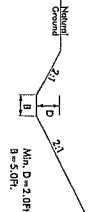
PERMIT DRAWINGS
SHEET OF

MATCHLINE STA. 7731+00
SEE DWG NO. 15

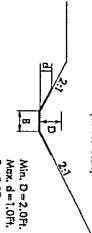


MATCHLINE STA. 7745+00
SEE DWG NO. 17

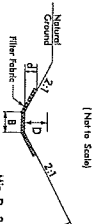
DETAIL A
SPECIAL LATERAL BASE DITCH
(Not to Scale)



DETAIL D
SPECIAL LATERAL BASE DITCH
(Not to Scale)



DETAIL F
SPECIAL LATERAL BASE DITCH
(Not to Scale)

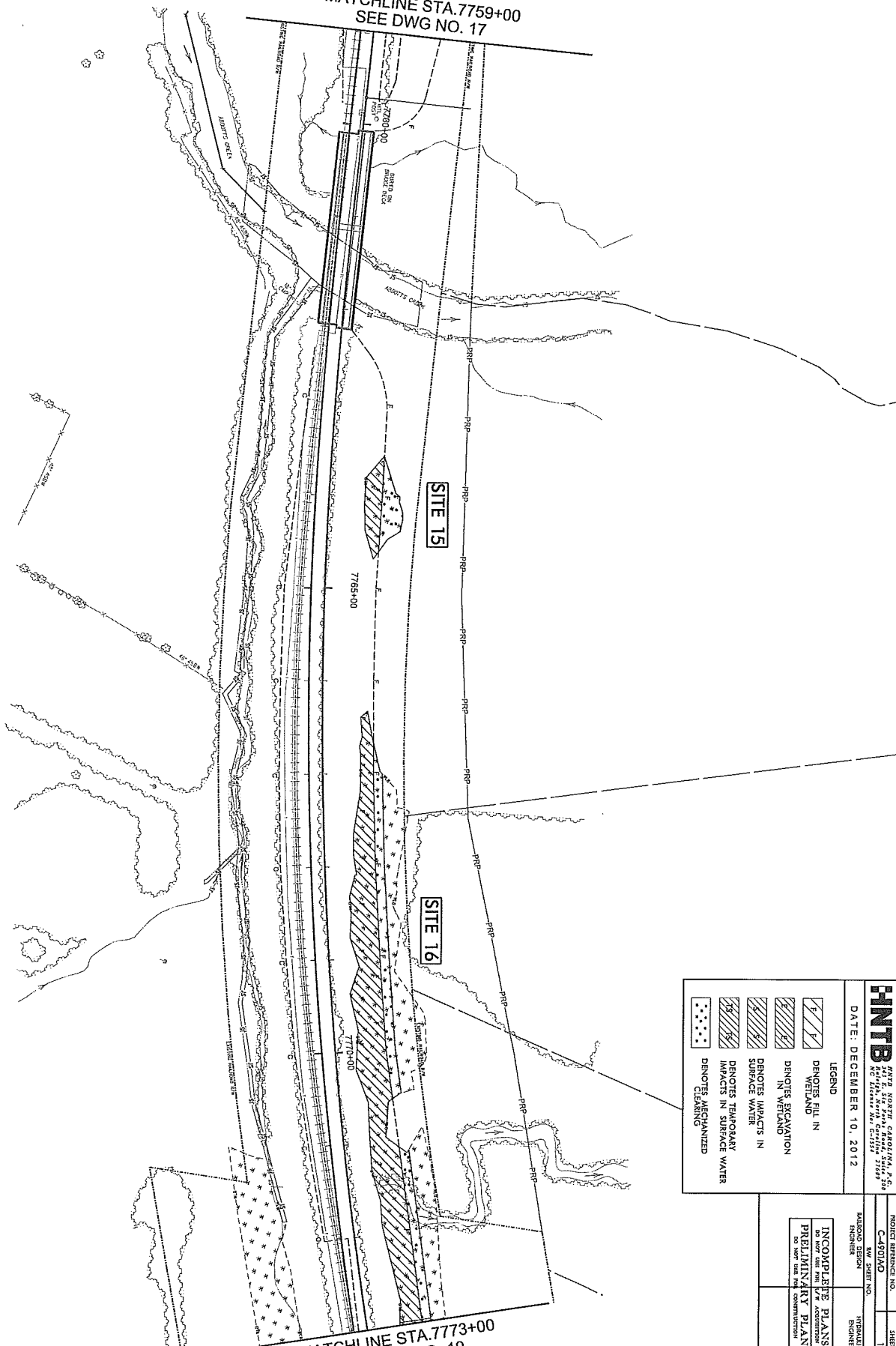


HNTB		DATE: DECEMBER 10, 2012
<small> HNTB CONSULTANTS, INC. 10101 W. 16th Ave., Suite 200 Denver, CO 80202 Phone: 303.751.1000 Fax: 303.751.1001 www.hntb.com </small>		PROJECT REFERENCE NO. C-4901AD
REGIONAL REGION	ENGINEER	SHEET NO. 16
INCOMPLETE PLANS DO NOT USE FOR CONSTRUCTION PRELIMINARY PLANS (NOT FOR CONSTRUCTION)		HYDRAULICS ENGINEER

	DENOTES FILL IN WETLAND
	DENOTES EXCAVATION IN WETLAND
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING

PERMIT DRAWINGS
SHEET OF

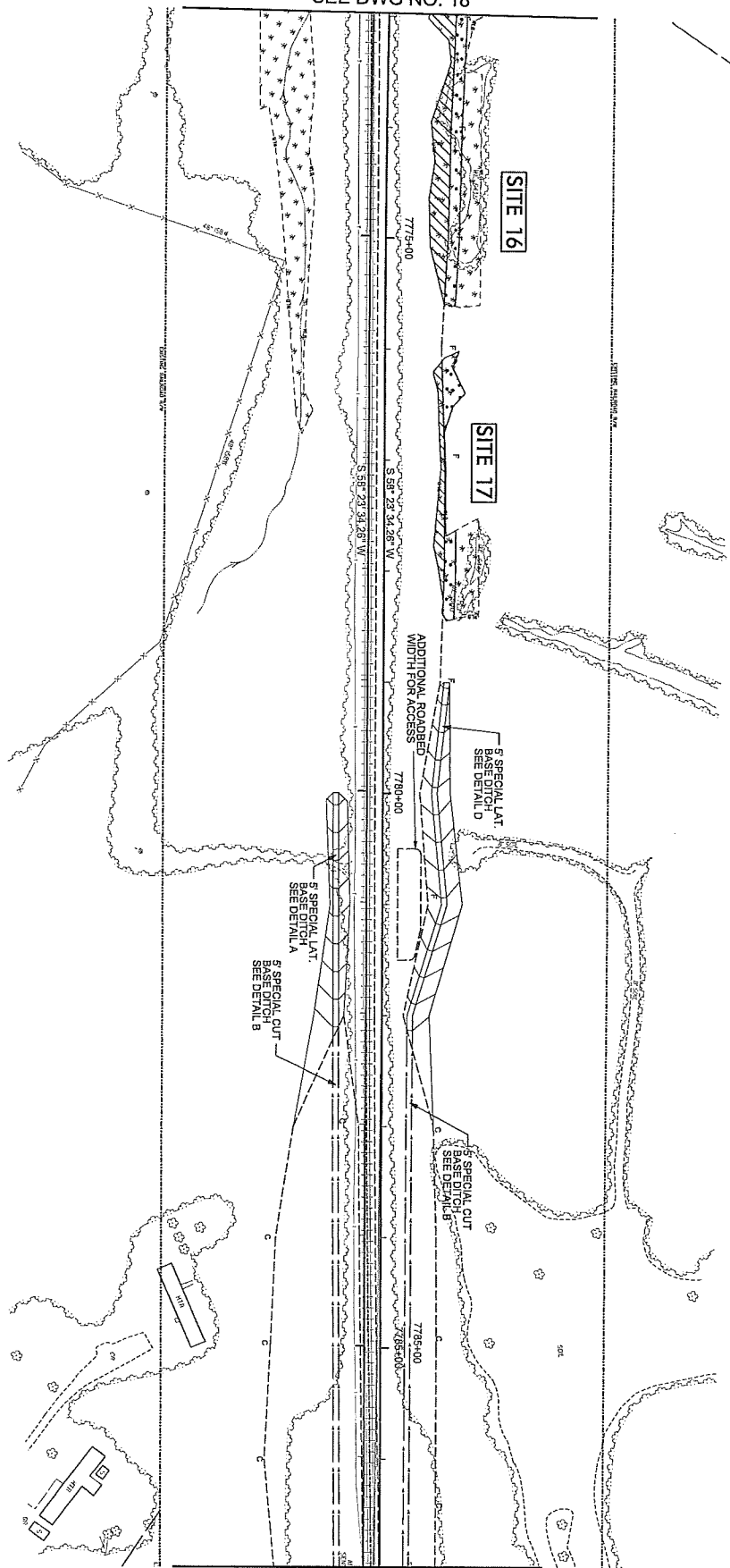
MATCHLINE STA. 7759+00
SEE DWG. NO. 17



MATCHLINE STA. 7773+00
SEE DWG. NO. 19

HNTB <small>HUNT NORTH CAROLINA, P.C. 201 E. 3rd Street, Suite 200 NC Hickory, NC 27540</small>		PROJECT REFERENCE NO. _____ SHEET NO. 18
DATE: DECEMBER 10, 2012		SCALE: AS SHOWN ENGINEER: _____ HYDRAULICS ENGINEER: _____
LEGEND		
	DENOTES FILL IN WETLAND	
	DENOTES EXCAVATION IN WETLAND	
	DENOTES IMPACTS IN SURFACE WATER	
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER	
	DENOTES MECHANIZED CLEARING	
INCOMPLETE PLANS PRELIMINARY PLANS <small>DO NOT TAKE CONSTRUCTION</small>		

MATCHLINE STA. 7773+00
SEE DWG NO. 18

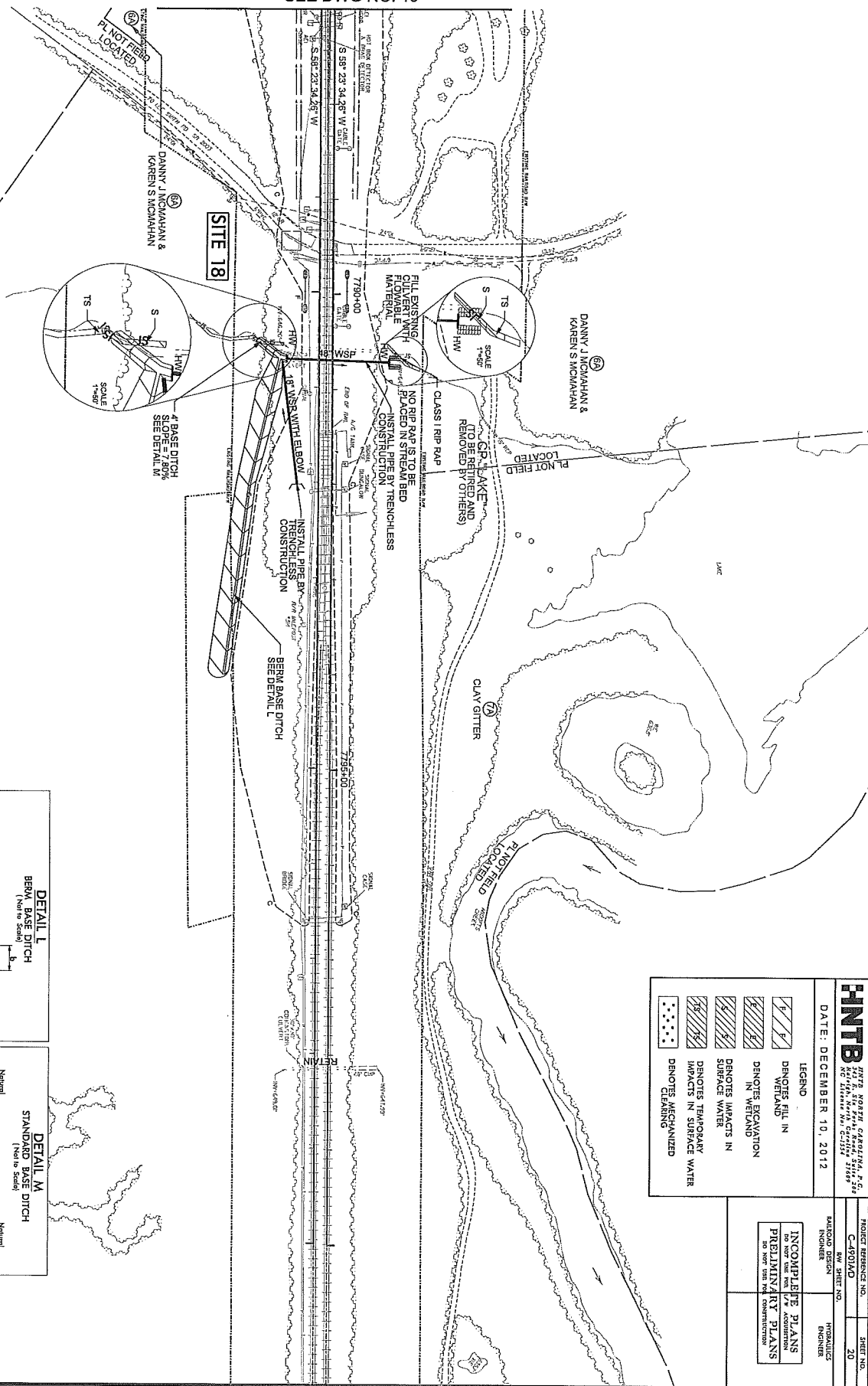


MATCHLINE STA. 7787+00
SEE DWG NO. 20

<p>HNTB <small>HUNT ROBERT CARROLL & ASSOCIATES, INC. 211 N. 5TH ST. SUITE 200 DENVER, CO 80202 PHONE: 303.733.4444 FAX: 303.733.4445</small></p>	
<p>DATE: DECEMBER 10, 2012</p>	
<p>PROJECT REFERENCE NO. C-4901AD</p>	
<p>SHEET NO. 19</p>	
<p>LEGEND</p> <ul style="list-style-type: none"> DENOTES FILL IN WETLAND DENOTES EXCAVATION IN WETLAND DENOTES IMPACTS IN SURFACE WATER DENOTES TEMPORARY IMPACTS IN SURFACE WATER DENOTES MECHANIZED CLEARING 	<p>AW SHEET NO. INCOMPLETE PLANS <small>DO NOT USE FOR CONSTRUCTION</small></p>
<p>BARBOUR DESIGN ENGINEER</p>	<p>HUNDALES ENGINEER</p>

PERMIT DRAWINGS
SHEET 19 OF 19

MATCHLINE STA. 7787+00
SEE DWG NO. 19

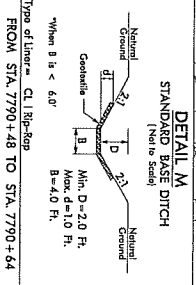
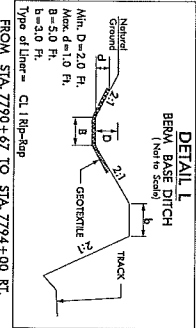


LEGEND

	DENOTES FILL IN WETLAND
	DENOTES EXCAVATION IN WETLAND
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING

HNTB
DATE: DECEMBER 10, 2012

PROJECT REFERENCE NO. C-4501AD	SHEET NO. 28
RAI/ROAD DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR CONSTRUCTION PRELIMINARY PLANS (FOR INFORMATION ONLY)	



PERMIT DRAWINGS
SHEET OF

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 (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	7579+43	42" WSP	-	-	-	-	-	0.02	0.01	226	26	-
2	7585+31	42" WSP	-	-	-	-	-	0.01	0.01	132	10	-
3	7597+56	72" WSP	-	-	-	-	-	0.01	0.01	116	32	-
4	7609+12	36" WSP	-	-	-	-	-	0.02	0.01	220	5	-
5	7614+60	36" WSP	-	-	-	-	-	0.01	0.01	36	5	-
6	7620+60	48" WSP	-	-	-	-	-	0.01	0.01	110	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	-	43	-
10	7656+00 to 7662+45 RT	Fill Slope	0.17	-	-	0.07	-	-	-	-	-	-
11	7662+50 to 7674+12 RT	Fill Slope	1.98	-	0.016	0.25	-	0.04	-	113	-	-
12	7678+66	54" BCCMP	-	-	-	-	-	0.19	-	144	10	-
13	7700+00 to 7701+87 LT	Fill Slope	0.01	-	-	0.02	-	-	-	-	-	-
14	7745+00	Ditch Excavation	-	-	-	-	-	-	0.01	-	58	-
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	57	16	-
TOTALS:			3.13	0.00	0.02	0.84	0.00	0.31	0.09	1154	222	0

WSP - WEILED 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 12/10/2012