



PAT McCrory
Governor

NICHOLAS J. TENNYSON
Secretary

September 6, 2016

MEMORANDUM TO: Mr. Michael Pettyjohn, P.E.
Division 11 Engineer

FROM: Philip S. Harris, III, P.E., Manager
for Natural Environment Section
Project Development and Environmental Analysis Unit

SUBJECT: Watauga and Ashe Counties; Widening of US 221
Business/NC88 in Jefferson;
Federal Aid No. STP-0221(10);
WBS Element 34518.1.1; **TIP R-2915.**

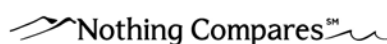
A handwritten signature in blue ink, likely belonging to Philip S. Harris, III.

Attached are the modified U.S. Army Corps of Engineers (USACE) Section 404 Individual Permit and the modified N.C. Division of Water Resources (DWR) Section 401 Water Quality Certification. All environmental permits have been received for the construction of this project

A copy of this permit package will be posted on the NCDOT website at:
<https://connect.ncdot.gov/resources/Environmental>, under *Quick Links > Issued Permits*

cc. w/o attachment (see website for attachments):

Mr. Randy Garris, P.E. State Contract Officer
Mr. Heath Slaughter, Division 11 Environmental Officer
Dr. Majed Al-ghandour, P.E., Program Dev. and TIP
Ms. Brenda Moore, P.E., Roadway Design
Mr. Matt Lauffer, P.E., Hydraulics
Mr. Tom Koch, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Kevin G. Bowen, P.E., State Bridge Construction Engineer
Ms. Beverly Robinson, P.E., PDEA
Mr. Philip Ayscue, Office of Inspector General
Ms. Beth Harmon, Division of Mitigation Services
Ms. LeiLani Paugh, Natural Environment Section



PROJECT COMMITMENTS

T.I.P Project No. R-2915
Widening of US 221 Business/ NC 88 in Jefferson
Watauga and Ashe Counties
Federal Aid Project No. STP-0221(10)
WBS Element 34518.1.1

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Division 11 Construction Unit

NCDOT will coordinate with the North Carolina Wildlife Resources Commission to determine the status of the potential WRC public access project at South Fork New River.

The coordination for developing public access to a river on a road project begins before project design. No plans were submitted from WRC for incorporation of public access to the River. This particular project has been designed with controlled access and very minimal access points. In particular, this is a four lane divided facility and access to the River at the crossing is dangerous.

NCDOT will comply with the North Carolina Wildlife Resources Commission's moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer from October 15 to April 15 for all streams supporting wild trout, including, but not limited to, Beaver Creek, Call Creek, Cole Branch, Gap Creek, Little Gap Creek, and Old Field Creek.

Design Standards in Sensitive Watersheds will be adhered to during project construction (15A NCAC 4B.0124).

NCDOT will re-survey the South Fork New River within the footprint of the existing and proposed bridge at that crossing prior to permitting to ensure no individuals of *Virginia spiraea* have inhabited the area.
The crossing of the South Fork New River was re-surveyed in July 2014 by NCDOT biologists.

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP) to determine the status of the project with regard to applicability of NCDOT's Memorandum of Agreement or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

NCDOT will provide an individual Section 404 permit for the U.S. Army Corps of Engineers and a Section 401 Water Quality Certification for the North Carolina Division of Water Quality.

NCDOT will design the roadway alignment and profile in front of the Fleetwood Community Center to not impact the underground storage tanks. No permanent right of way will be purchased from the Fleetwood Community Center. Temporary construction easement may be necessary to properly tie the proposed to the existing.

COMMITMENTS FROM PERMITTING

Division 11 Construction Unit

401 Condition 1: When final design plans are completed for R-2915 Sections C and E, a modification to the 401 Water Quality Certification shall be submitted with five copies and fees to the NC Division of Water resources. Final designs shall reflect all appropriate avoidance, minimization, and mitigation for impacts to wetlands, streams, and other surface waters, and buffers. No construction activities that impact any wetlands, streams or surface waters located in R-2915 Sections C and E shall begin until after the permittee applies for, and receives a written modification of the 401 Water Quality Certification from the NC Division of Water Resources.

401 Condition 4: Streams with Trout classifications require that in-stream work and land disturbance within the 25-foot buffer zone are prohibited during the trout-spawning season of October 15 through April 15 to protect the egg and fry stages of trout.

401 Condition 5: Where possible, hand clearing in wetlands should be used in Section R-2915A rather than mechanized clearing.

401 Condition 6: The relocated portion of a wetland at Permit Site 7 for Section R-2915B should be a grassed swale that has been designed to match the grade and shape of the existing wetland as much as possible.

401 Condition 7: Ensure that the planned installation of a cross vane structure at the downstream end of Old Field Creek at Permit Site 6 for Section R-2915D is constructed in such manner that alleviates scour and erosion to the maximum extent practical.

401 Condition 8: Channel relocations shall be completed and stabilized, and approved on site by NCDWR staff, 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, additional rip-rap, above which was approved in final approved design drawings, 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.

401 Condition 19: Due to site conditions at Permit Site 9 for Section R-2915B, NCDWR will not require the burial of the culvert inlet in this location. However, design and placement of the culvert and other structures shall be installed in such a manner that the original stream profiles are not altered (i.e., the depth of the channel must not be reduced by a widening of the streambed). Existing stream dimensions (including pattern and profile) are to be maintained above and below locations of each culvert. The structures shall be designed and installed to allow for fish and other wildlife movement as well as prevent headcutting of the stream. The applicant may be required to provide evidence that the equilibrium has been maintained if requested in writing by the NCDWR.

Roadside Environmental Unit

401 Condition 3: Where streams within the project area carry supplemental classifications as Trout (Tr), High Quality Waters (HQP) or Outstanding Resource Waters (ORW), stormwater shall be directed to vegetated buffer areas, grasslined ditches or other means appropriate to the site for the purpose of pre-treating storm water runoff prior to discharging directly into streams. Mowing of existing vegetated buffers is strongly discouraged. Grassed swales should also be utilized throughout the project to reduce water velocity, promote infiltration and provide treatment for discharge before runoff enters streams. The permittee shall use Design Standards in Sensitive Watersheds per 15A NCAC 4B.0124(a)-(e) in areas draining to ORW, HQW waters. However, due to the size of the project, the NCDOT shall not be required to meet 15A NCAC 4B.0124(a) regarding the maximum amount of uncovered acres. Temporary cover (wheat, millet, or similar annual grain) or permanent herbaceous cover shall be planted on all bare soil within 15 business days of ground disturbing activities to provide erosion control.



DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

August 31, 2016

Regulatory Division

Action ID: SAW- 2012-00882

Mr. Philip S. Harris III, P.E., C.P.M.
North Carolina Department of Transportation
Division of Highways
Natural Environment Section Head
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

I refer to your Department of the Army (DA) Individual Permit dated January 7, 2015, in which we authorized the placement of fill material into 3.04 acre of wetlands and 7,886 linear feet (lf) of stream, and temporary placement of fill material into 0.31 acres of Waters of the US, associated with the widening of US Highway 221 from US 421 to US 221 Business/NC 88 in Jefferson, in Watauga and Ashe Counties, North Carolina (TIP Numbers R-2519 A-E). This was a phased permit and only authorized work on Sections A, B and D. Sections C and E were not authorized to commence until final design was completed, impacts to waters and wetlands were minimized to the extent practicable, and all modified plans including, but not limited to, a compensatory mitigation plan were submitted and approved by the US Army Corps of Engineers (the Corps).

I also refer to the letter dated July 28, 2016, in which you requested a modification for final impacts to Section 2519-C of the project. This modification request included details for each proposed impact site, the updated mitigation acceptance letter, stormwater management plan, permit drawings, and design plans for Section C. The updated projected impacts for the overall (Sections A-E) project are 3.11 acres of permanent wetland impacts, 8,196 linear feet of permanent stream impacts (7,023 linear feet of fill and 1,173 linear feet of bank stabilization), and 0.34 acre of temporary stream impacts. The revised permit impact totals for Section C of this project include 2,573 linear feet of permanent stream impacts (2,339 linear feet of permanent fill and 234 linear feet of bank stabilization) and 0.27 acre of permanent wetland impacts. This final design of Section C reflects changes to many areas with an overall addition of 310 linear feet of permanent stream impacts (73 linear feet of channel fill and 234 linear feet of bank stabilization) and 0.7 acre of permanent wetland impacts.

After review of the information you submitted and the inclusion of the following special conditions, we have determined that your existing DA authorization is modified to include the work detailed in your submittal dated July 28, 2016.

1. All work authorized by this permit must be performed in strict compliance with the originally approved application and plans for R-2915, which were received on July 22, 2014 and the updated modification request and plans dated July 28, 2016.
2. This permit only authorizes work on Sections A, B, C and D of TIP R-2915. Construction on Section E shall not commence until final design has been completed for this section, the permittee has minimized impacts to waters and wetlands to the maximum extent practicable, modifications to the plans and a compensatory mitigation plan have been approved by the Corps. Preliminary plans for R-2915E were provided with the July 22, 2014 application, however, these plans are not to be used for construction purposes.
3. In order to compensate for impacts 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. Mitigation for R-2915 Sections A/B/D were already required by permit issued January 7, 2015. A Mitigation Responsibility Transfer Form is attached required to offset final design impacts to Section C of R-2915.

In addition to special conditions stated above, all conditions of the original permit and its expiration date of December 31, 2019 remain applicable.

If you have questions, please contact Steve Kichefski at (828) 271-7980 extension 234.

Sincerely,


for/ Kevin P. Landers Sr.
Colonel, U.S. Army
District Commander

Enclosure

Copies Furnished w/o enclosure:

Mr. Roger Rochelle, P.E
NCDOT - Technical Services
1516 Mail Service Center
Raleigh, North Carolina 27699-1516

Ms. Amy Chapman
NCDEQ, DWR - Transportation Permitting Units
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

Mr. Dave Wanucha
NCDEQ, DWR – Transportation Permitting Unit
NCDEQ Winston Salem Regional Office
450 West Hanes Mill Road, Suite 300
Winston Salem, North Carolina 27105

Ms. Marella Buncick
U.S. Fish & Wildlife Service
160 Zillicoa Street
Asheville, North Carolina 28801

Ms. Marla Chambers
NCDOT Coordinator
Habitat Conservation Program
NC Wildlife Resources Commission
C/o NCDOT
206 Charter Street
Albemarle, North Carolina 28001

Ms. Cynthia Van Der Wiele
U.S. EPA - Region 4 NEPA Program Office
C/o USEPA-RTP
109 T.W. Alexander Dr. - Mail Code: E143-08
Research Triangle Park, NC 27709

U.S. ARMY CORPS OF ENGINEERS
Wilmington District
Compensatory Mitigation Responsibility Transfer Form

Permittee: NCDOT/ Attn: Mr. Philip Harris
Project Name: NCDOT / R 2915 / US 221 / DIV 11 / EEP

Action ID: SAW-2012-00882
County: Ashe

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 Division of Mitigation Services (NCDMS), 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 (credits) 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 bank ledger and provide a copy of the signed form and the updated bank ledger to the Permittee, the USACE Project Manager, and the Wilmington District Mitigation Office (see contact information on page 2). The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

Permitted Impacts and Compensatory Mitigation Requirements:

Permitted Impacts Requiring Mitigation* **8-digit HUC and Basin:** 05050001, New River Basin

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
		2,339	0.27			

*If more than one mitigation sponsor will be used for the permit, only include impacts to be mitigated by this sponsor.

Compensatory Mitigation Requirements: **8-digit HUC and Basin:** 05050001, New River Basin

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
		4,678	0.54			

Mitigation Site Debited: NCDMS

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCDMS, list NCDMS. If the NCDMS 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 NCDMS), 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: Mitigation for R-2915 Sections A/B/D were already required by permit issued January 7, 2015 and this additional compensatory mitigation is required to offset final design impacts to R-2915 Section C.

This form is not valid unless signed below by the USACE Project Manager and by the Mitigation Sponsor on Page 1. ***Once signed, the Sponsor should provide copies of this form along with an updated bank ledger to: 1) the Permittee, 2) the USACE Project Manager at the address below, and 3) the Wilmington District Mitigation Office, Attn: Todd Tugwell, 11405 Falls of Neuse Road, Wake Forest, NC 27587 (email: todd.tugwell@usace.army.mil).*** Questions regarding this form or any of the permit conditions may be directed to the USACE Project Manager below.

USACE Project Manager: Steve Kichefski
USACE Field Office: Asheville Regulatory Field Office
US Army Corps of Engineers
151 Patton Avenue, Room 208
Asheville, North Carolina 28801-5006
Email: steven.l.kichefski@usace.army.mil

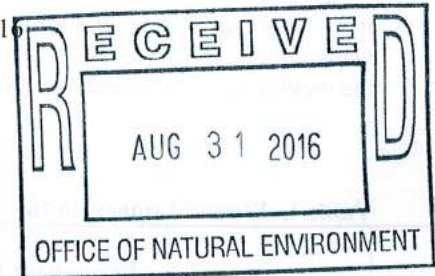
KICHEFSKI.STEVEN.L.13 Digitally signed by KICHEFSKI.STEVEN.L.1386908539
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=USA, cn=KICHEFSKI.STEVEN.L.1386908539
86908539 Date: 2016.08.30 19:41:51 -04'00'

USACE Project Manager Signature

**August 30, 2016
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>.

August 23, 2016



Mr. Philip S. Harris, III, P.E., CPM
Natural Environment Section Head
Project Development and Environmental Analysis
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

**Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with
ADDITIONAL CONDITIONS for US 221 Widening from US 421 to US 221 Business/NC 88 in
Jefferson located in Watauga and Ashe Counties. Federal Aid Project No. STP-0221(13), TIP No.
R-2915. WBS 34518.1.1. NCDWR Project No. 20140762.**

Dear Mr. Harris:

Attached hereto is a modification of Certification No. 004001 originally issued to The North Carolina Department of Transportation (NCDOT) dated September 8, 2014. Revised DWR Project No. is 20140764_v2. This modification is to add impacts related to the C Section of R-2915.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

S. Jay Zimmerman, Director
Division of Water Resources

Attachments

Electronic copy only distribution:

Steve Kichefsky, US Army Corps of Engineers, Asheville Field Office
Heath Slaughter, Division 11 Environmental Officer
Rodger Rochelle, NC Department of Transportation
Colin Mellor, NC Department of Transportation
Carla Dagnino, NC Department of Transportation
Dr. Cynthia Van Der Wiele, US Environmental Protection Agency
Marella Buncick, US Fish and Wildlife Service
Marla Chambers, NC Wildlife Resources Commission
Beth Harmon, Division of Mitigation Services
Dave Wanucha, NC Division of Water Resources Winston Salem Regional Office
File Copy

Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act 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 Resources (NCDWR) Regulations in 15 NCAC 2H. This certification authorizes the NCDOT to impact an additional 0.27 acres of jurisdictional wetlands and 2,339 linear feet of jurisdictional streams in Ashe County. The project shall be constructed pursuant to the modification dated received July 28, 2016. The authorized impacts are as described below in Tables 1 and 2.

Table 1. Stream Impacts in the New River Basin for Section R-2915C.

Site	Permanent Fill in Stream (linear ft.)		Temporary Fill in Stream (linear ft.)	Total Stream Impact (linear ft.)	Stream Impacts Requiring Mitigation (linear ft.)	
	Culvert/Pipe	Bank Stabilization			USACE	NCDWR
2A	71	-	34	105	71	-
2B	-	19	49	68	-	-
3	-	-	10	10	-	-
4	210	16	35	261	210	210+16
5	236	20	21	277	236	236+20
6	53	10	17	80	53	-
7	37	-	6	43	37	-
8	134	10	29	173	134	-
9	31	-	28	59	31	-
10	14	-	21	35	14	-
11	45	12	23	80	45	-
12	78	-	20	98	78	-
13A	270	-	23	293	270	270
13B ¹	48	-	-	48	48	-
14	-	4	10	14	-	-
14B	-	13	-	13	-	-
16	256	-	84	340	256	256
17	-	-	30	30	-	-
19A	58	-	-	58	58	-
19B	-	18	-	18	-	18
21	170/113*	-	-	283	283	170
22	-	21	-	21	-	21
23	163*	-	45	208	163	-
24	-	16	-	16	-	16
25A	262	-	10	272	262	262
25B	60	-	10	70	60	-
26	-	13	12	25	-	-
27	-	17	-	17	-	17
28	-	17	-	17	-	17
31	-	20	-	20	-	20
32	30	8	12	50	30	-
Totals	2,339	234	529	3,102	2,339	1,549

¹ 13B is a channel relocation. *Indicates stream is intermittent.

Table 2. Riparian Wetland Impacts in the New River Basin for Section R-2915C.

Site	Permanent Fill (ac)	Temporary Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)	Wetland Impacts Requiring Mitigation (ac)	
							USACE	NCDWR
1 ¹	0.14	-	-	0.02	-	0.16	0.16	-
2A ¹	0.01	-	-	<0.01	-	0.03	0.03	-
20 ¹	0.04	-	-	0.02	-	0.06	0.06	-
26 ¹	0.01	-	-	-	-	0.01	0.01	-
29	<0.01	-	-	<0.01	-	0.01	0.01	-
30	-	-	-	<0.01	-	<0.01	<0.01	-
Total*	0.22	-	-	0.05	-	0.27	0.27	-

¹ Total take of wetland. *Totals are rounded.

The application provides adequate assurance that the discharge of fill material into the waters of the New 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 modified application dated received July 28, 2016. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated September 8, 2014 still apply including those listed below in this modification. Should your project change, you are required to notify the NCDWR 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:

1. This modification is applicable only to the additional proposed activities. All of the authorized activities and conditions of certification associated with the original Water Quality Certification dated September 8, 2014 for Sections A, B and D still apply including those listed below in this modification.
2. Sediment and erosion control measures shall not be placed in wetlands or waters without prior notification to Division of Water Resources. [15A NCAC 02H.0506(b)(3) and (c)(3)]
3. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]
4. A copy of the original Water Quality Certification and this subsequent modification shall be maintained on the construction site at all times and shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
5. 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 permitted sites. NCDWR staff shall be invited to the pre-construction meeting. [15A NCAC 02H.0506(b)(2) and (b)(3)]
6. If NCDOT is unable to meet culvert burial requirements (one foot or 20 percent of culvert diameter for culverts with a diameter greater than 48 inches) due to bedrock or other limiting features encountered during construction (i.e. constructability issues), please contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)].

7. Compensatory mitigation for 1,549 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 Division of Mitigation Service (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated July 27, 2016 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the DMS Mitigation Banking Instrument signed July 28, 2010.

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 DEQ as follows:

Mr. Sam M. Hayes, General Counsel
Department of Environmental Quality
1601 Mail Service Center

This the 23rd day of August 2016

DIVISION OF WATER RESOURCES



S. Jay Zimmerman, Director

WQC No. 0044001



PAT MCCRORY

Governor

DONALD R. VAN DER VAART

Secretary

S. JAY ZIMMERMAN

Director

NCDWR Project No.: _____

County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Resources, 1617 Mail Service Center, Raleigh, NC, 27699-1617. This form may be returned to NCDWR by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Engineer's Certification

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____ Date _____



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 2.02; Released April 2015)

WBS Element: 34518.1.4 TIP No.: R-2915C County(ies): Ashe Page 1 of 7

General Project Information

WBS Element:		34518.1.4		TIP Number: R-2915C		Project Type: Roadway Widening		Date: 5/31/2016		
NCDOT Contact:		Heath Slaughter				Contractor / Designer:		HNTB North Carolina, P.C.		
	Address:		801 Statesville Rd North Wilkesboro, 28659				Address:		343 E. Six Forks Road Suite 200 Raleigh, NC 27609	
	Phone:		(336) 903-9202				Phone:		(919) 424-0424	
	Email:		hslaughter@ncdot.gov				Email:		jabyrd@hntb.com	
City/Town:		Fleetwood				County(ies):		Ashe		
River Basin(s):		New				CAMA County?		No		
Wetlands within Project Limits?		Yes								

Project Description

Project Length (lin. miles or feet):	3.979 Miles	Surrounding Land Use:	Residential, Agricultural & Forest					
	Proposed Project			Existing Site				
Project Built-Up Area (ac.)	46.7	ac.	13.0			ac.		
Typical Cross Section Description:	4-lane divided roadway with 12' lanes, raised median, paved shoulders and roadside ditches			2-lane roadway with 11' lanes, paved shoulders and roadside ditches				
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	21,029	Year:	2037	Existing:	12,743	Year:	2017
General Project Narrative: (Description of Minimization of Water Quality Impacts)	R-2915C involves the widening on NC 221, from north of South Fork New River to south of NC 194, from 2-lanes to a 4-lane divided facility. The project includes jurisdictional stream crossings, closed system drainage, road side ditches and berm ditches. Retaining walls were used throughout the project to limit impacts to jurisdictional streams and wetlands. SR 1178 (Paul Goodman Rd.) was realigned to reduce project impacts to Old Field Creek.							
	Preformed scour holes were used at pipes outlets throughout the project to dissipate energy and promote diffuse flow into jurisdictional areas. At jurisdictional stream crossings, bank stabilization was used at the outlets in lieu of standard rip-rap pads where practical. At these outlets, pipe slopes were minimized to reduce flow velocities into the streams.							
	Floodplain benches were utilized at culvert sites to maintain continuity of the stream through the crossings.							

Waterbody Information

Surface Water Body (1):		South Fork New River		NCDWR Stream Index No.:		10-1-(20.5)	
NCDWR Surface Water Classification for Water Body			Primary Classification:	Water Supply V (WS-V)			
			Supplemental Classification:	High Quality Waters (HQW)			
Other Stream Classification:	None						
Impairments:	None						
Aquatic T&E Species?		No	Comments:				
NRTR Stream ID:		S43			Buffer Rules in Effect:		N/A
Project Includes Bridge Spanning Water Body?		No	Deck Drains Discharge Over Buffer?		N/A		Dissipator Pads Provided in Buffer?
Deck Drains Discharge Over Water Body?		N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)							



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 2.02; Released April 2015)

WBS Element: 34518.1.4 TIP No.: R-2915C County(ies): Ashe Page 2 of 7

Additional Waterbody Information

Surface Water Body (2):	Old Field Creek	NCDWR Stream Index No.:	10-1-22-(0.3)
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C	
	Supplemental Classification:	Trout Waters (Tr)	
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	No	Comments:	
NRTR Stream ID:	S56	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)	(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)
(If yes, provide justification in the General Project Narrative)			

Surface Water Body (3):	UT S.F. New River	NCDWR Stream Index No.:	10-1-(20.5)*
NCDWR Surface Water Classification for Water Body	Primary Classification:	Water Supply V (WS-V)	
	Supplemental Classification:	High Quality Waters (HQW)	
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	No	Comments:	
NRTR Stream ID:	S44	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)	(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)
(If yes, provide justification in the General Project Narrative)			

Surface Water Body (4):	UT Old Field Creek	NCDWR Stream Index No.:	10-1-22-(0.3)*
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C	
	Supplemental Classification:	Trout Waters (Tr)	Waters (ORW)
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	No	Comments:	
NRTR Stream ID:	S47	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)	(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)
(If yes, provide justification in the General Project Narrative)			

Surface Water Body (5):	UT Old Field Creek	NCDWR Stream Index No.:	10-1-22-(0.3)*
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C	
	Supplemental Classification:	Trout Waters (Tr)	Waters (ORW)
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	No	Comments:	
NRTR Stream ID:	S48	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)	(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)
(If yes, provide justification in the General Project Narrative)			



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 2.02; Released April 2015)

WBS Element: 34518.1.4 TIP No.: R-2915C County(ies): Ashe Page 3 of 7

Additional Waterbody Information

Surface Water Body (6):	UT Old Field Creek		NCDWR Stream Index No.:	10-1-22-(0.3)*	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Trout Waters (Tr) Waters (ORW)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No Comments:				
NRTR Stream ID:	S50		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (7):	UT Old Field Creek		NCDWR Stream Index No.:	10-1-22-(0.3)*	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Trout Waters (Tr) Waters (ORW)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No Comments:				
NRTR Stream ID:	S52		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (8):	UT Old Field Creek		NCDWR Stream Index No.:	10-1-22-(0.3)*	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No Comments:				
NRTR Stream ID:	S55		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (9):	UT Old Field Creek		NCDWR Stream Index No.:	10-1-22-(0.3)*	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No Comments:				
NRTR Stream ID:	S62		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 2.02; Released April 2015)

WBS Element: 34518.1.4 TIP No.: R-2915C County(ies): Ashe Page 4 of 7

Additional Waterbody Information

Surface Water Body (10):	UT Old Field Creek		NCDWR Stream Index No.:	10-1-22-(0.3)*	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No		Comments:		
NRTR Stream ID:	S63		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (11):	UT Old Field Creek		NCDWR Stream Index No.:	10-1-22-(0.3)*	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No		Comments:		
NRTR Stream ID:	S70		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (12):	UT Old Field Creek		NCDWR Stream Index No.:	10-1-22-(0.3)*	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No		Comments:		
NRTR Stream ID:	S72		Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (13):	UT Old Field Creek		NCDWR Stream Index No.:	10-1-22-(0.3)*	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No		Comments:		
NRTR Stream ID:	S79		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 2.02; Released April 2015)

WBS Element: 34518.1.4 TIP No.: R-2915C County(ies): Ashe Page 5 of 7

Additional Waterbody Information

Surface Water Body (14):	UT Old Field Creek		NCDWR Stream Index No.:	10-1-22-(0.3)*	
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C		
		Supplemental Classification:	Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No		Comments:		
NRTR Stream ID:	S67		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (15):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body		Primary Classification:			
		Supplemental Classification:			
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?			Comments:		
NRTR Stream ID:			Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (16):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body		Primary Classification:			
		Supplemental Classification:			
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?			Comments:		
NRTR Stream ID:			Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (17):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body		Primary Classification:			
		Supplemental Classification:			
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?			Comments:		
NRTR Stream ID:			Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					



North Carolina Department of Transportation
Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS



(Version 2.02; Released April 2015)

WBS Element: TIP No.: R-2915C County(ies): Ashe Page 6 of 7

Preformed Scour Holes and Energy Dissipators

Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Energy Dissipator Type	Riprap Type	Drainage Area (ac)	Conveyance Structure	Pipe/Structure Dimensions (in)	Q10 (cfs)	V10 (fps)	BMP Associated w/ Buffer Rules?
5	-L- 266+07 LT 36.29940 / 81.49836	(3)UT S.F. New River	Riprap Apron / Pad	Class I	10.4	Pipe	30	18.2	7.7	N/A
7	-L- 298+23 LT 36.30521 / 81.50617	(4)UT Old Field Creek	Riprap Apron / Pad	Class I	42.3	Pipe	48	27.0	6.4	N/A
7	-L- 302+05 LT 36.30601 / 81.50654	(5)UT Old Field Creek	Riprap Apron / Pad	Class I	81.5	Pipe	60	48.0	8.4	N/A
9	-L- 317+58 LT 36.30961 / 81.50935	(6)UT Old Field Creek	Riprap Apron / Pad	Class I	19.4	Pipe	30	23.1	14.7	N/A
10	-L- 333+45 LT 36.31338 / 81.51245	(8)UT Old Field Creek	Riprap Apron / Pad	Class I	15.9	Pipe	30	15.0	8.2	N/A
11	-L- 348+76 LT 36.31723 / 81.51390	(9)UT Old Field Creek	Riprap Apron / Pad	Class I	22.9	Pipe	36	18.9	7.6	N/A
11	-L- 352+50 LT 36.31814 / 81.51465	(10)UT Old Field Creek	PSH	Class 'B'	1.8	Pipe	18	5.9	1.7	N/A
12	-L- 358+72 LT 36.31948 / 81.51608	(14)UT Old Field Creek	Riprap Apron / Pad	Class I	1.7	Pipe	18	3.7	10.4	N/A
13	-L- 371+50 LT 36.32288 / 81.51729	(2)Old Field Creek	PSH	Class 'B'	2.7	Pipe	18	7.3	1.8	N/A
13	-L- 375+15 LT 36.32383 / 81.51756	(2)Old Field Creek	PSH	Class 'B'	0.8	Pipe	15	3.4	1.4	N/A
13	-Y9- 15+18 LT 36.32485 / 81.51624	(11)UT Old Field Creek	Riprap Apron / Pad	Class I	1.7	Pipe	18	3.7	9.3	N/A
13	-L- 377+37 RT 36.32451 / 81.51750	(2)Old Field Creek	PSH	Class 'B'	0.3	Pipe	15	1.5	3.6	N/A
13	-L- 379+16 RT 36.32491 / 81.51768	(2)Old Field Creek	PSH	Class 'B'	0.2	Pipe	15	0.8	0.9	N/A
14	-L- 382+75 RT 36.32579 / 81.51848	(2)Old Field Creek	PSH	Class 'B'	1.2	Pipe	15	5.4	1.7	N/A
14	-L- 391+50 RT 36.32772 / 81.52023	(2)Old Field Creek	PSH	Class 'B'	1.5	Pipe	15	4.1	1.5	N/A
15	-L- 398+00 RT 36.32978 / 81.52113	(2)Old Field Creek	PSH	Class 'B'	0.8	Pipe	15	3.1	1.4	N/A

Additional Comments

Where possible Junction Boxes were used to reduce slopes and velocities at pipe outlets. Outlet velocities were unable to be reduced below the desired 4 fps due to the steep terrain located throughout the project.

* Refer to the NCDOT Best Management Practices Toolbox (2014), NCDOT Standards, the Federal Highway Administration (FHWA) Hydraulic Engineering Circular No. 14 (HEC-14), Third Edition, Hydraulic Design of Energy Dissipators for Culverts and Channels (July 2006), as applicable, for design guidance and criteria.



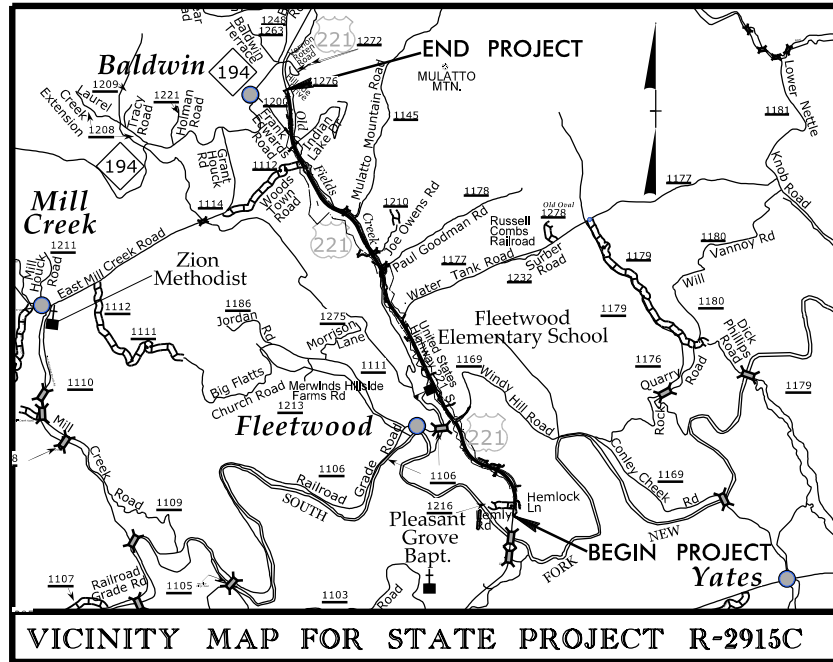
Page 7 of 7

* Refer to the NCDOT Best Management Practices Toolbox (2014), NCDOT Standards, the Federal Highway Administration (FHWA) Hydraulic Engineering Circular No. 14 (HEC-14), Third Edition, Hydraulic Design of Energy Dissipators for Culverts and Channels (July 2006), as applicable, for design guidance and criteria.

09/08/99

TIP PROJECT: R-2915C

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



FDPI SUBMITTAL

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ASHE COUNTY

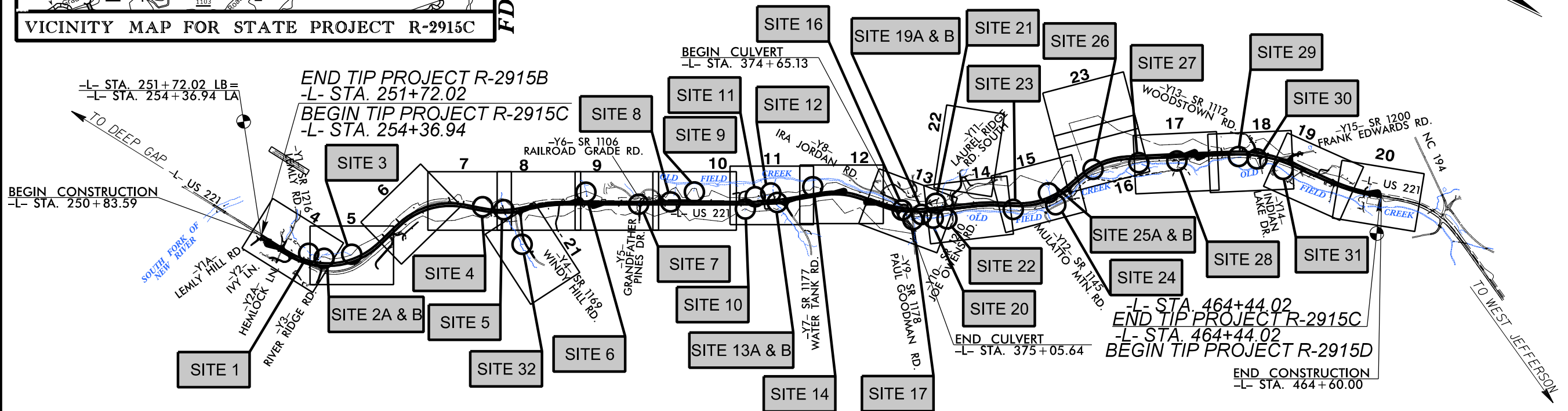
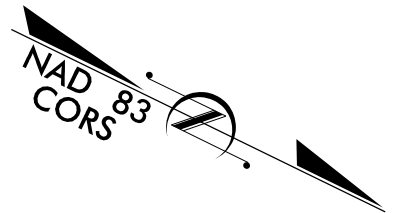
LOCATION: US 221 FROM NORTH OF SOUTH FORK NEW RIVER
TO SOUTH OF NC 194.

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURES

WETLAND & STREAM IMPACTS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2915C	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34518.1.4	STP-0221(41)	P.E.	
34518.2.3	STP-0221(41)	R/W	
34518.2.U3	STP-0221(41)	UTILITIES	

PERMIT DRAWINGS
SHEET 1 OF 43



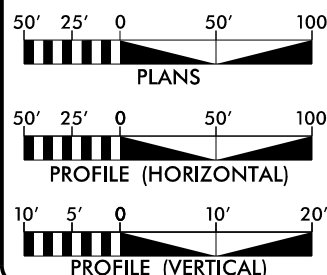
THIS IS A PARTIAL CONTROLLED ACCESS PROJECT WITH
ACCESS BEING LIMITED TO POINTS SHOWN ON PLANS.

** DESIGN EXCEPTION REQUIRED FOR MAXIMUM GRADE

PREPARED FOR
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, NC
PLANS COORDINATED BY:
Rekha Patel, PE - Roadway Design
Project Engineer (NCDOT)

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2017 = 12,743
ADT 2037 = 21,029
DHV = 9 %
D = 60 %
T = 9 % *
V = 60 MPH**
* = (TTST 2% + DUAL 7%)
FUNC CLASS =
RURAL ARTERIAL
STATE WIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2915C = 3.971 Miles
LENGTH STRUCTURES TIP PROJECT R-2915C = 0.008 Miles
TOTAL LENGTH TIP PROJECT R-2915C = 3.979 Miles

Prepared In the Office of:

LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
NC License Number: F-0159

HNTB
HNTB
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609
NC License Number: C-3554

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
November 21, 2014

LETTING DATE:
November 15, 2016

Brian Eason, PE
PROJECT ENGINEER

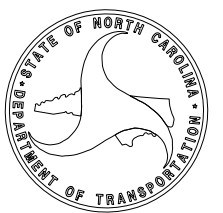
Bill Bollman
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN
ENGINEER

SIGNATURE: _____ P.E.



1:09:09 PM
\\Drawings\R-2915C.prm.TSH.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

8/17/99

REVISIONS

148:08 PM
\\P001\RD2915C_rdy-PSH02D-1.dgn
\$USERNAME

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

NC License
Number E-0159

HNTB

343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609

NC License
Number C-1554

PROJECT REFERENCE NO.

R-2915C

SHEET NO.

2D-1

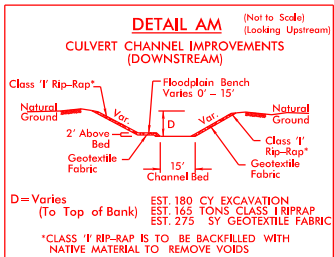
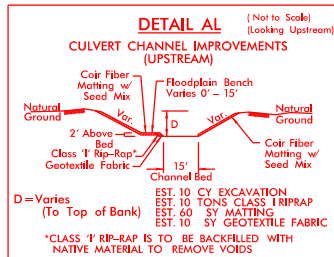
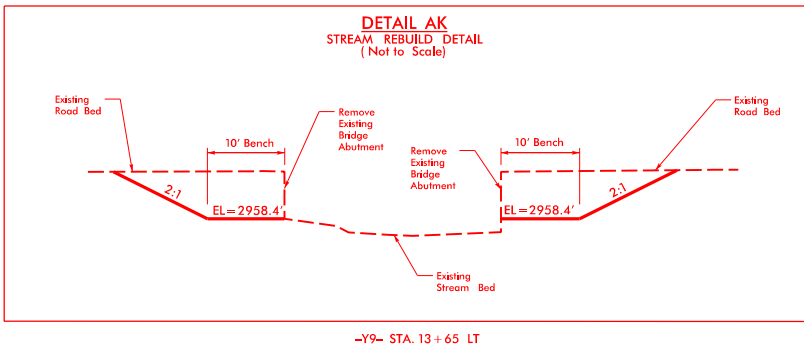
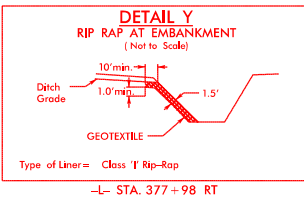
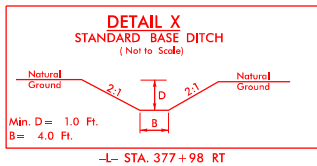
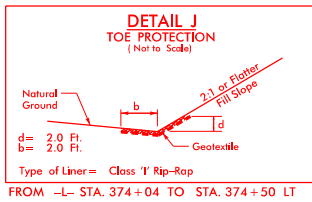
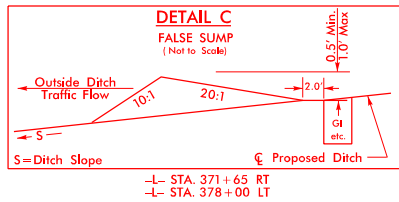
R/W SHEET NO.

ROADWAY DESIGN
ENGINEER

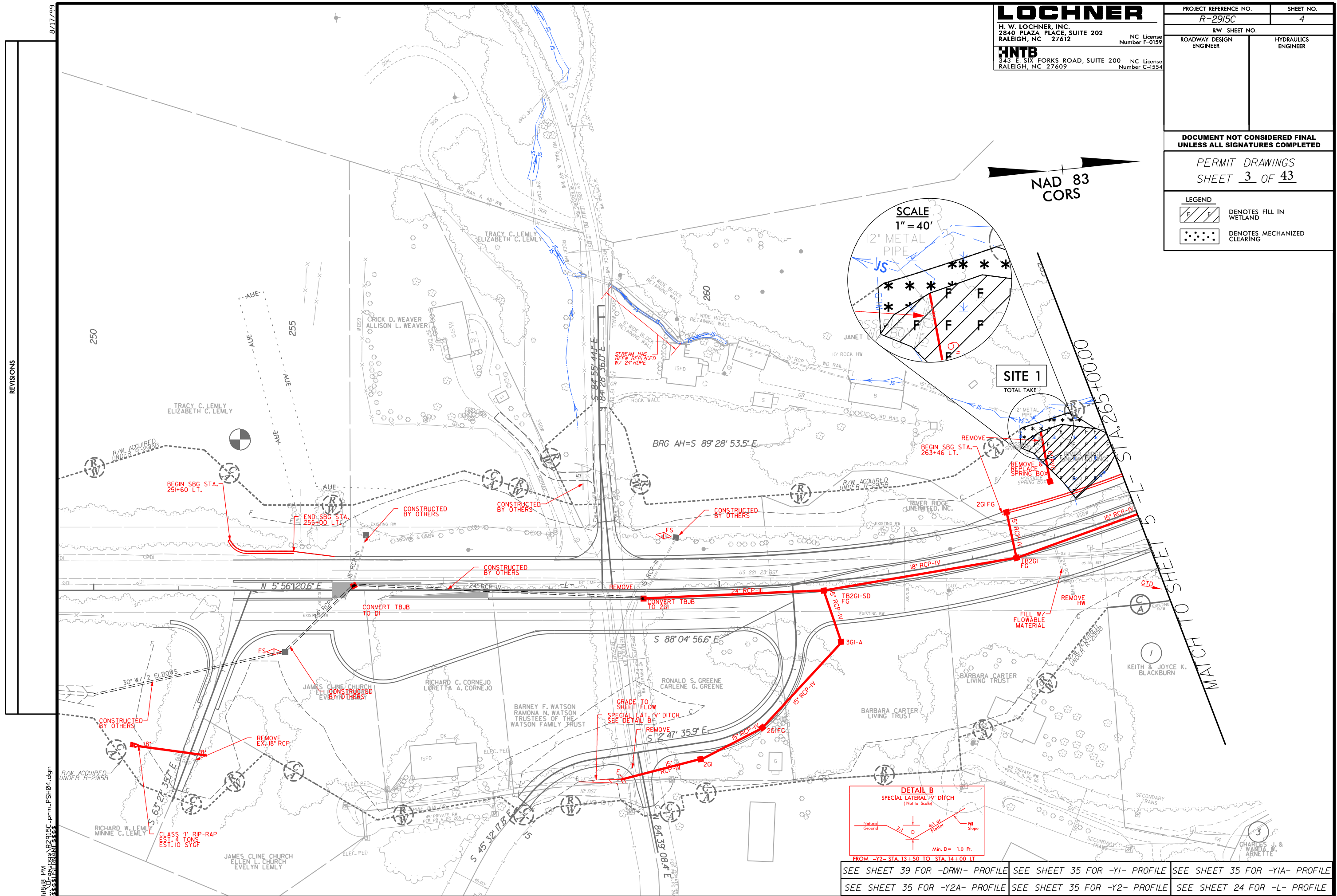
HYDRAULICS
ENGINEER

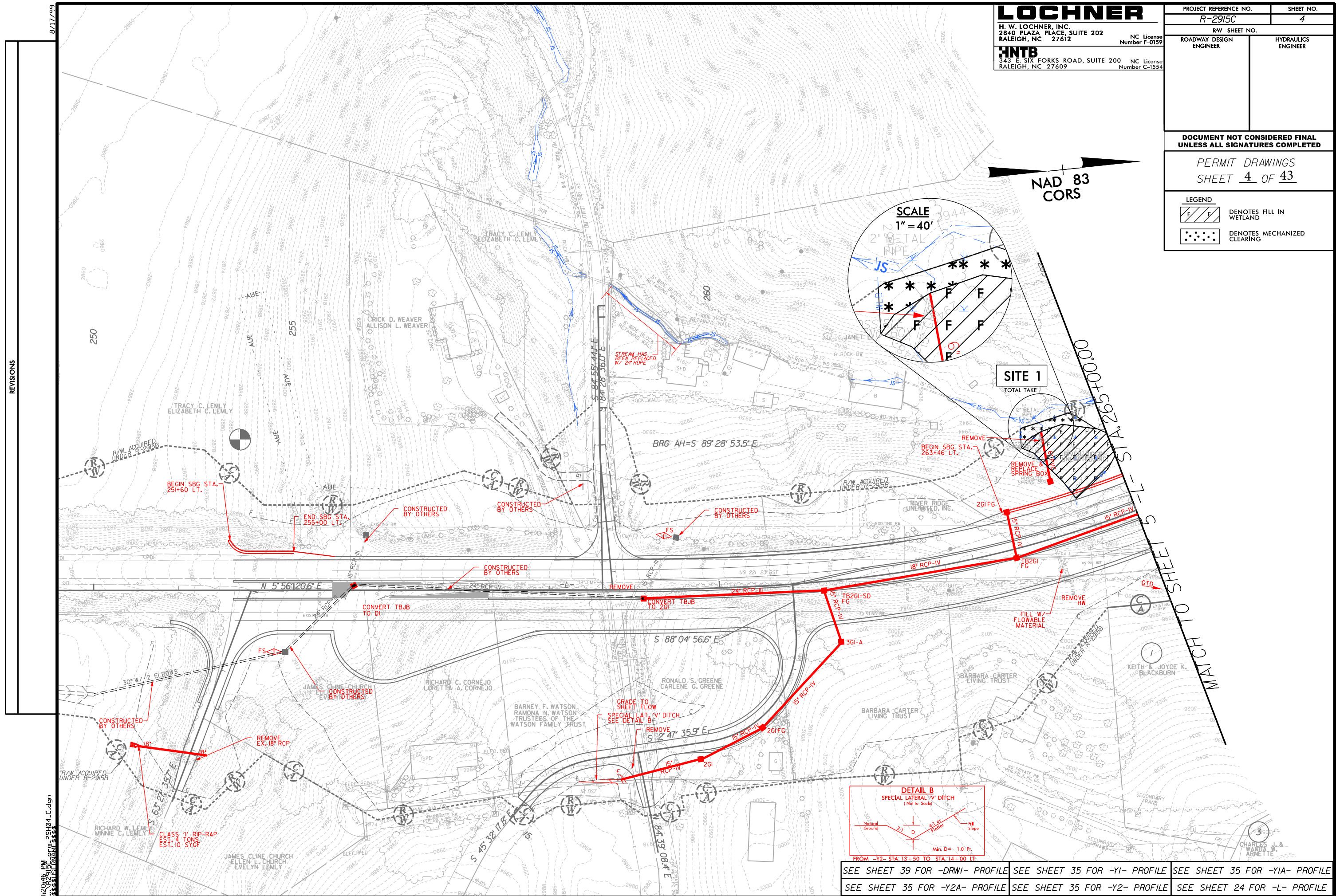
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

PERMIT DRAWINGS
SHEET 2 OF 43



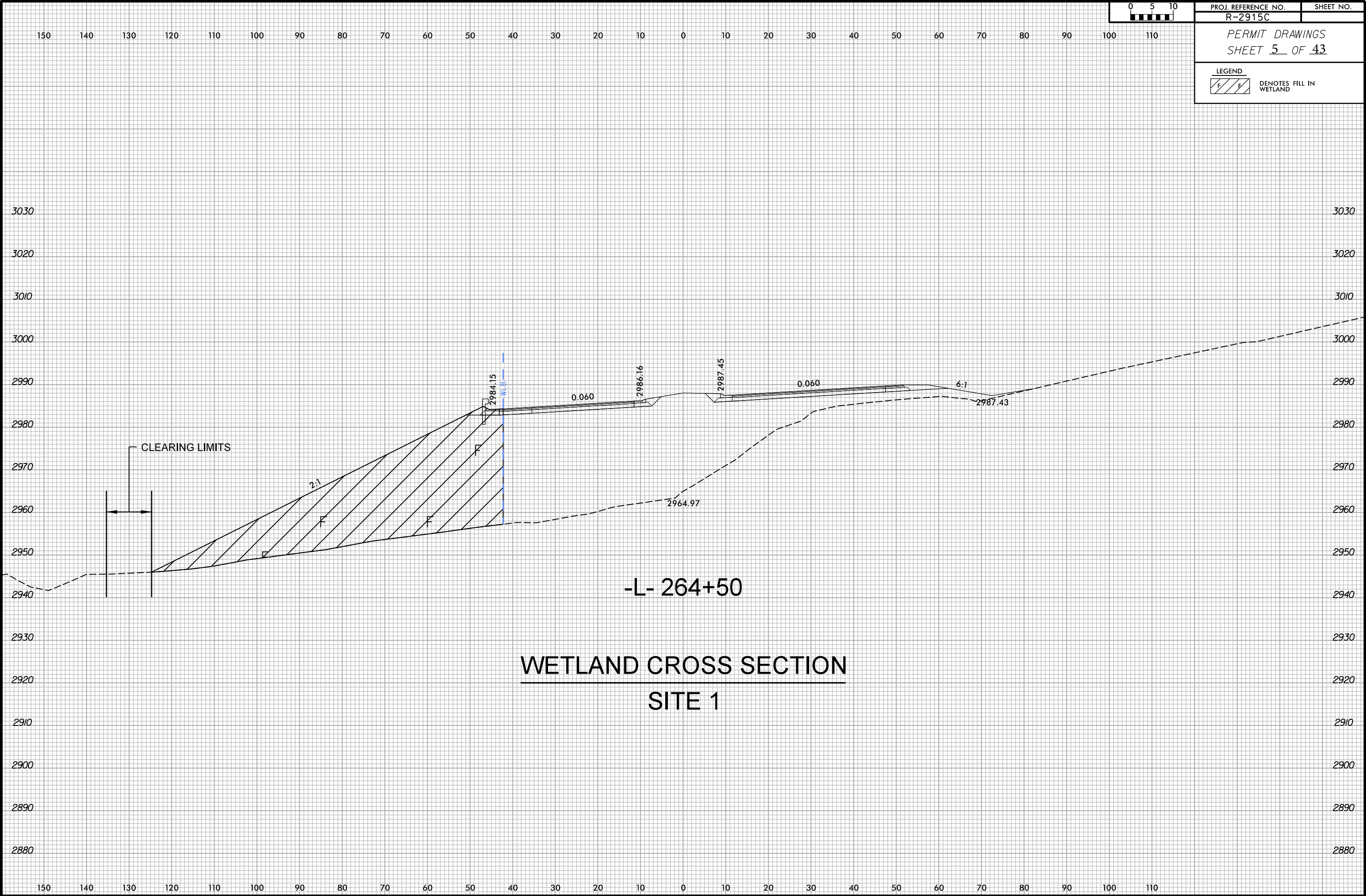
SEE SHEET 14 FOR PLAN VIEW



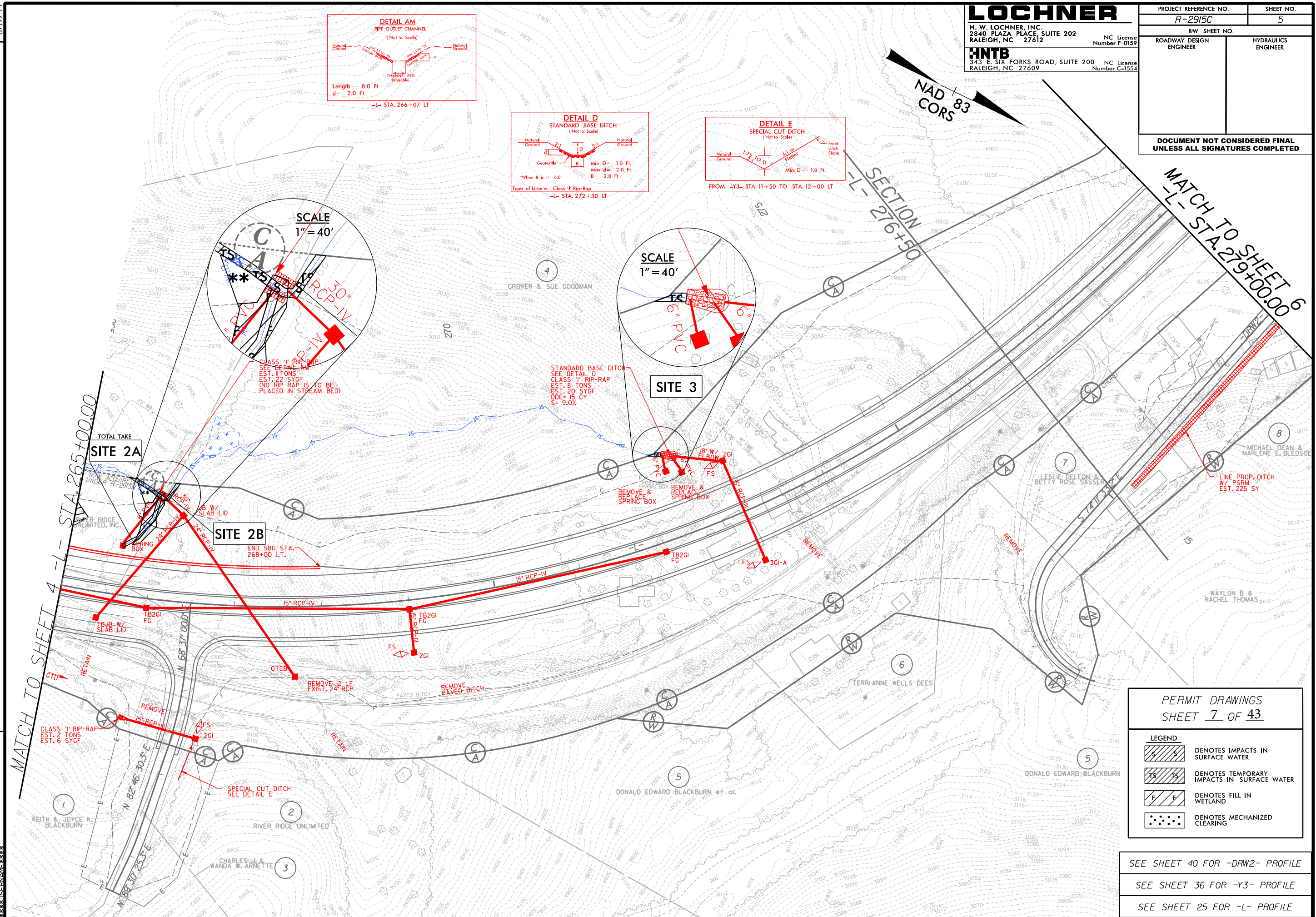


8/23/99

10:35:45 AM
C:\Users\johndoe\Documents\Wetland.XSC.dgn



PROJ. REFERENCE NO.	SHEET NO.
R-2915C	
PERMIT DRAWINGS SHEET 5 OF 43	
LEGEND	
	DENOTES FILL IN WETLAND



REVISIONS

8/17/99

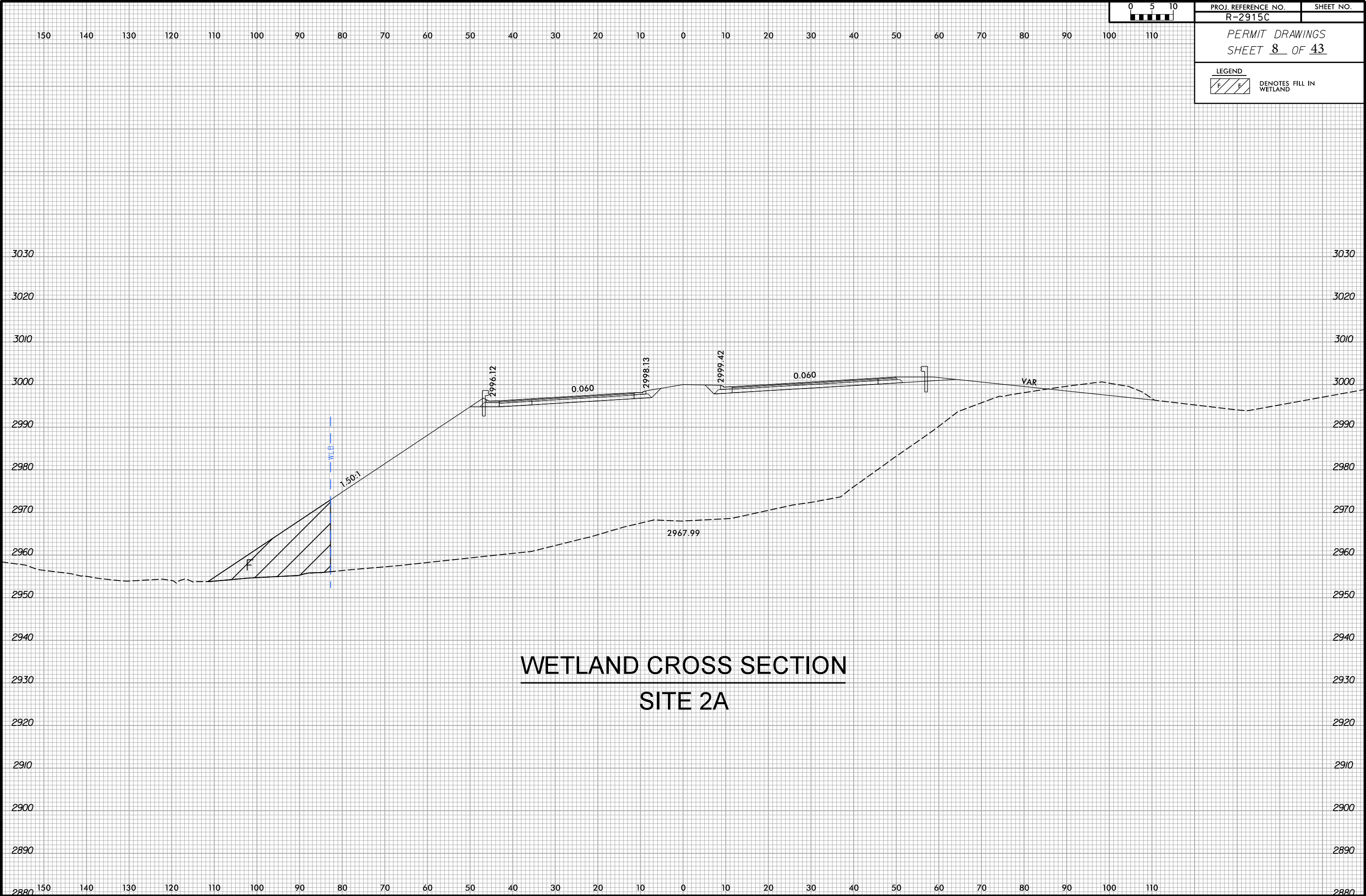
4:13:39 PM
 \$\$\$\$USERNAME\$\$\$\$
\\R2915C_prm-PSH05_C.dgn

8/23/99

10:36:28 AM
\\s01c01\proj\06\ch01\Wetland.XSC.dgn
User: jmc



PROJ. REFERENCE NO.	SHEET NO.
R-2915C	
PERMIT DRAWINGS SHEET <u>8</u> OF <u>43</u>	
LEGEND  DENOTES FILL IN WETLAND	



8/17/99

10952 PM
H:\Projects\2915C\2915C.dgn

REVISIONS

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

NC License
Number F-0159

HNTB

343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609

NC License
Number C-1554

PROJECT REFERENCE NO.

R-2915C

SHEET NO.

7

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWINGS

SHEET 9 OF 43

LEGEND

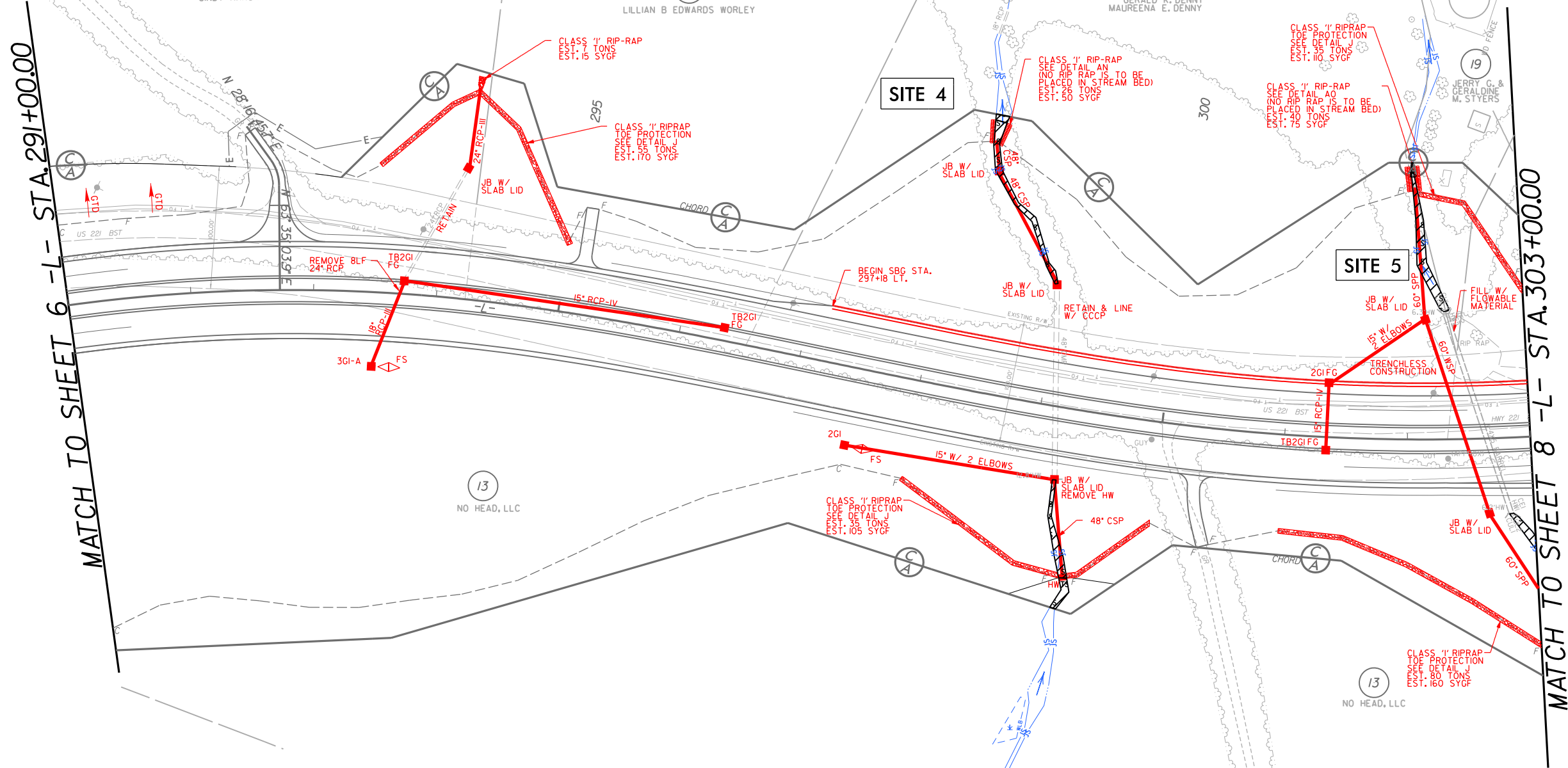


DENOTES IMPACTS IN
SURFACE WATER



DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

NAD 83
CORS



SEE SHEET 40 FOR -DRW5- PROFILE

SEE SHEET 27 FOR -L- PROFILE

8/17/99

REVISIONS

H:\2915C\BPT\PSH07.C.dgn
8/17/99 11:25:15 AM

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

NC License
Number F-0159

INTB

343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609

NC License
Number C-1554

PROJECT REFERENCE NO.

R-2915C

SHEET NO.

7

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWINGS
SHEET 10 OF 43

LEGEND



DENOTES IMPACTS IN
SURFACE WATER

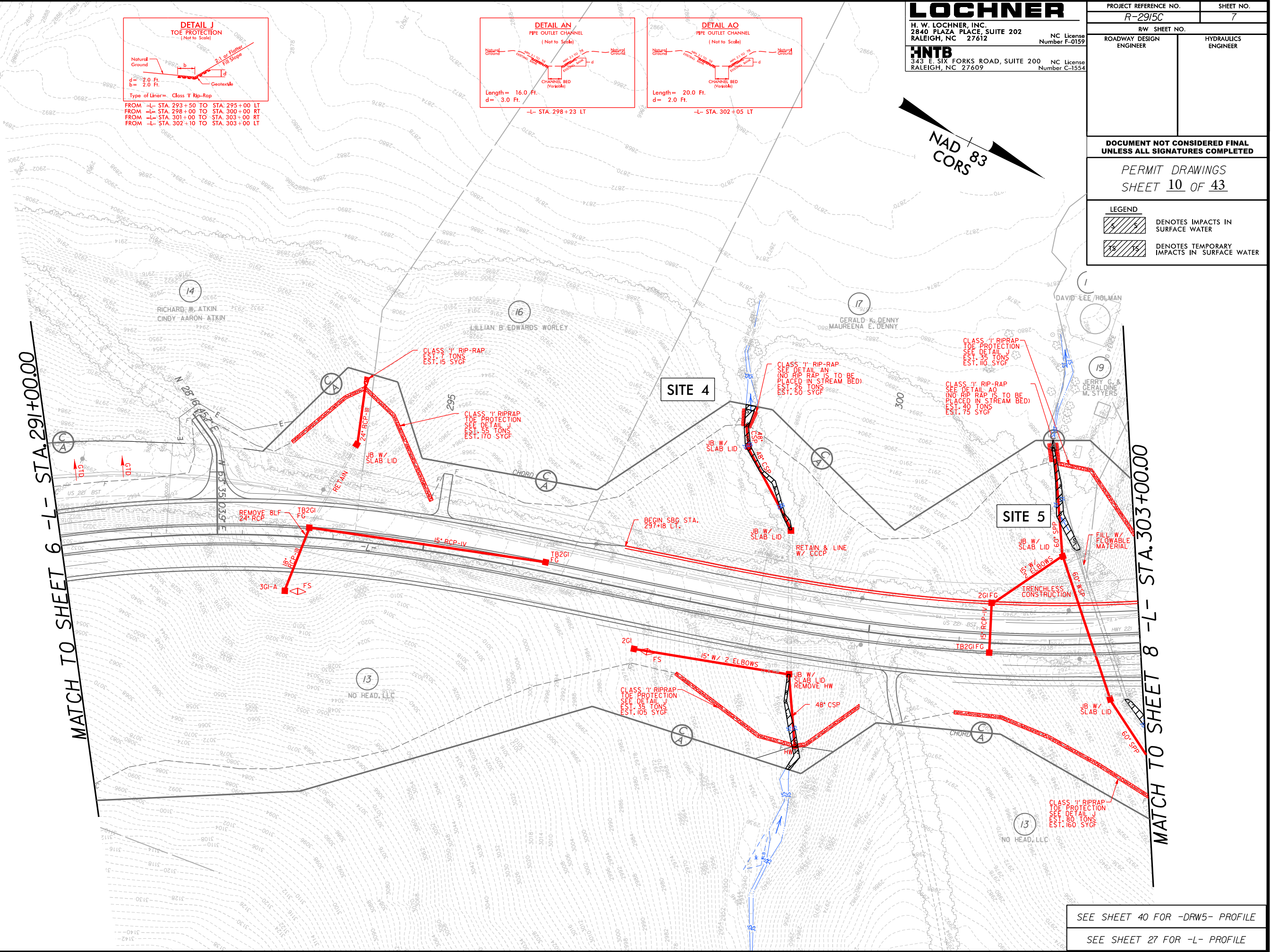
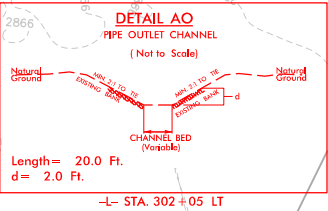
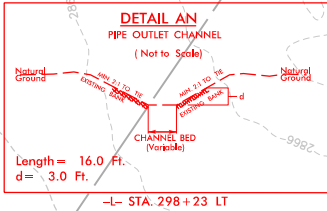
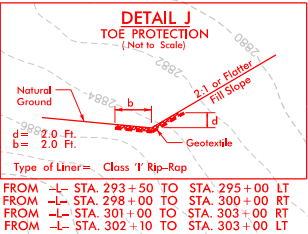


DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

NAD 83
CORS

MATCH TO SHEET 6 -L- STA. 291+00.00

MATCH TO SHEET 8 -L- STA. 303+00.00



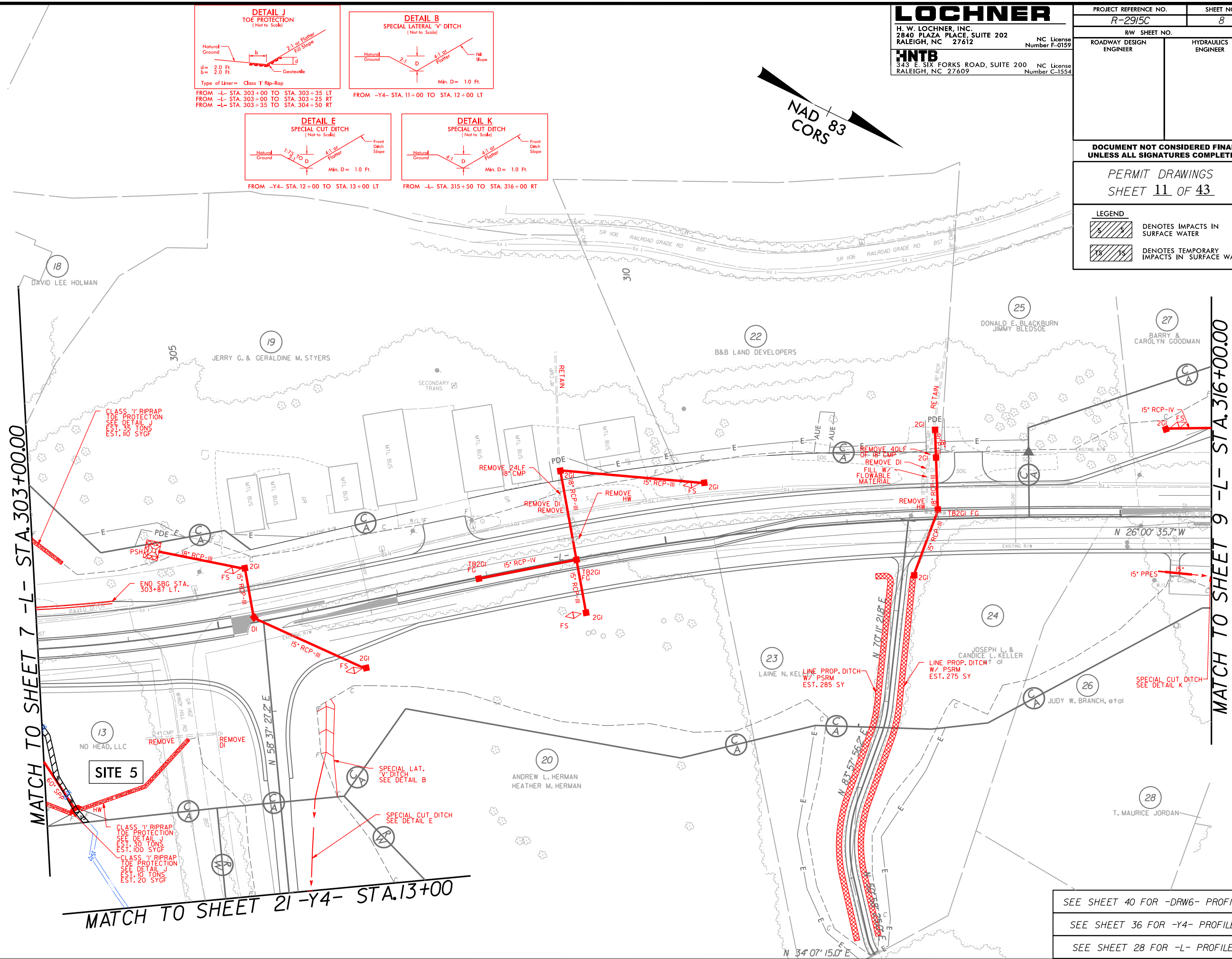
SEE SHEET 40 FOR -DRW5- PROFILE

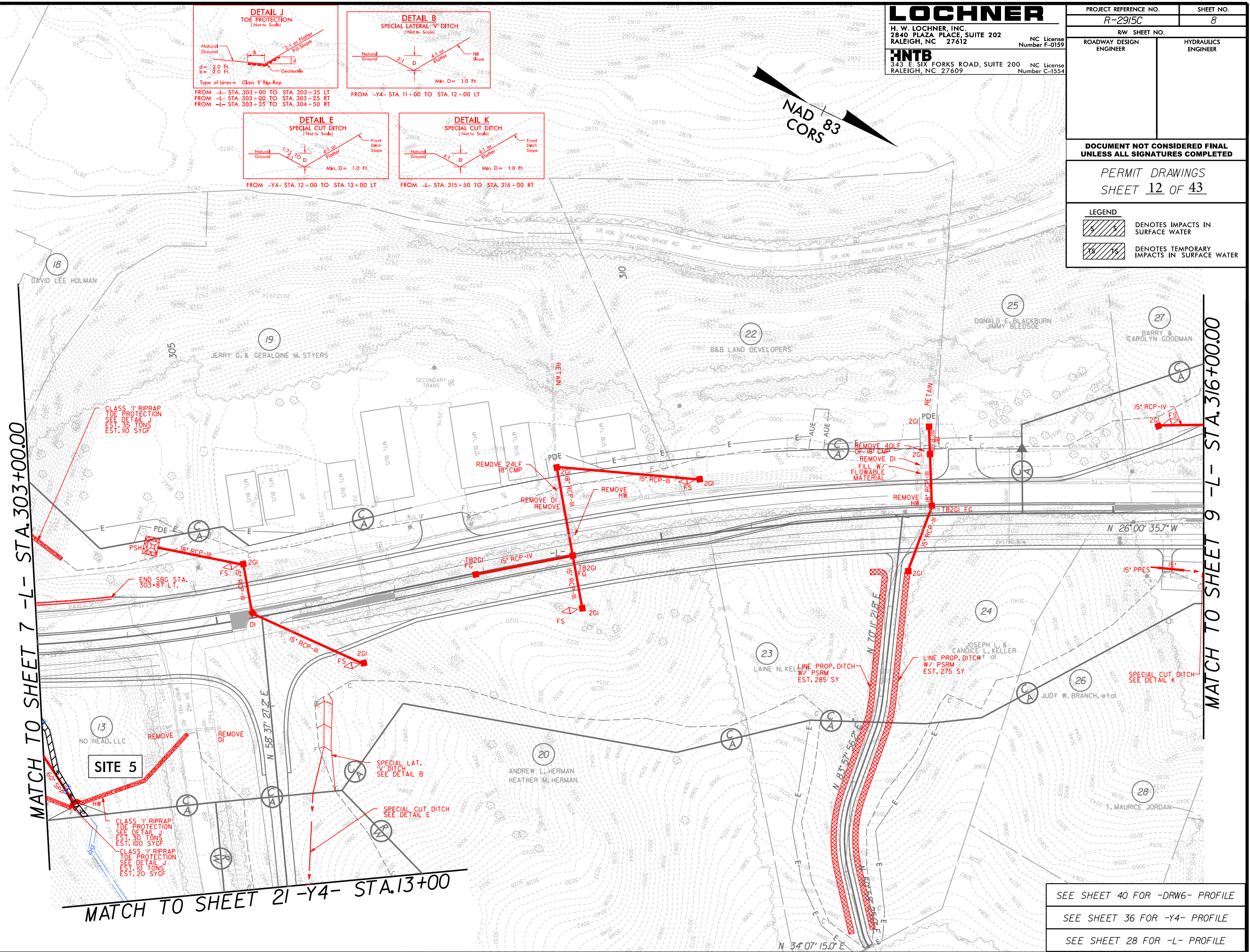
SEE SHEET 27 FOR -L- PROFILE

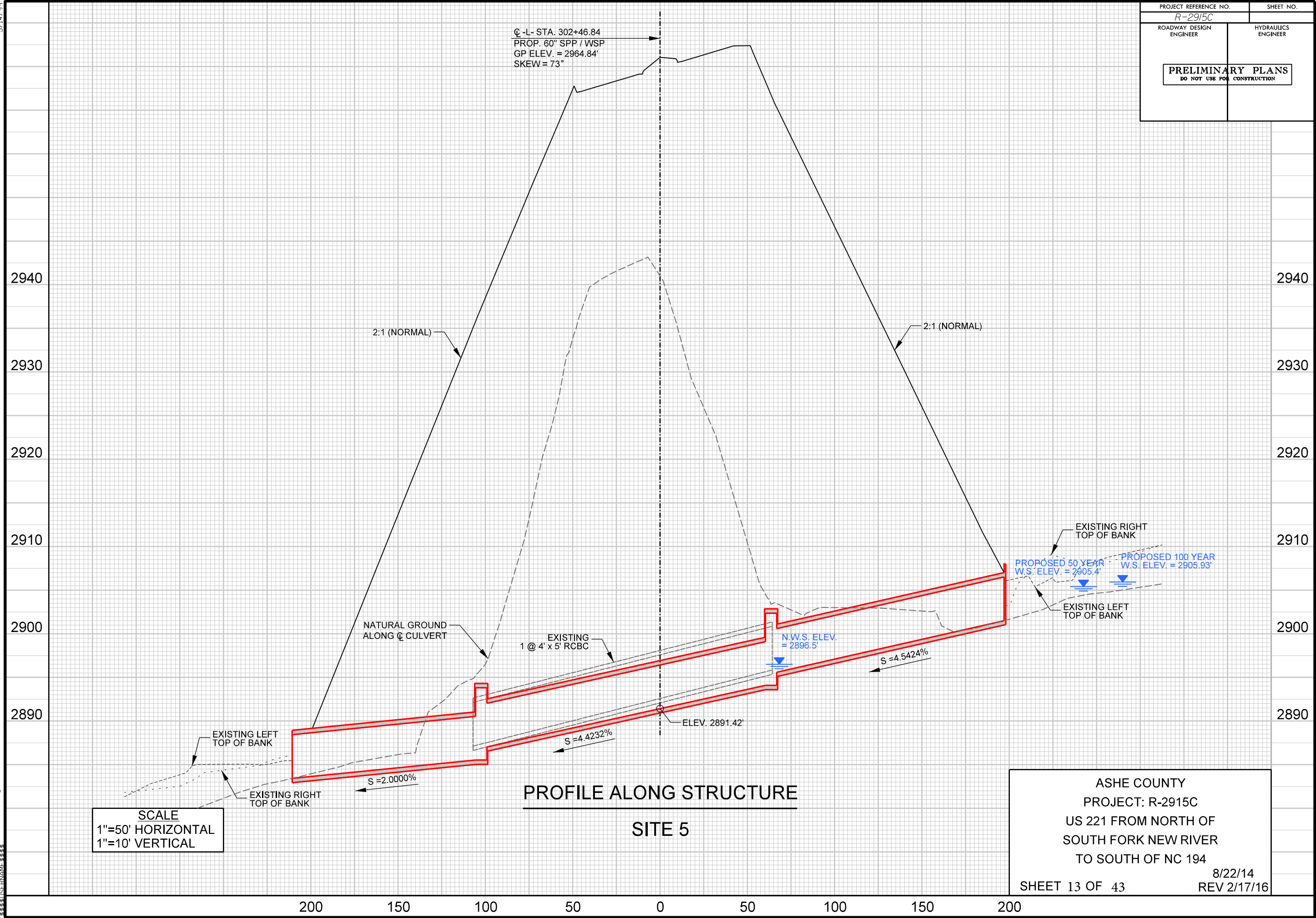
LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
NC License
Number F-0159

HNTB
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609
NC License
Number C-1554

PROJECT REFERENCE NO.	SHEET NO.
R-29/5C	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PERMIT DRAWINGS SHEET <u>11</u> OF <u>43</u>	
LEGEND   NOTES 1. IMPACTS IN SURFACE WATER SHALL BE IDENTIFIED BY THE ENGINEER. 2. IMPACTS IN SURFACE WATER SHALL BE IDENTIFIED BY THE ENGINEER.	







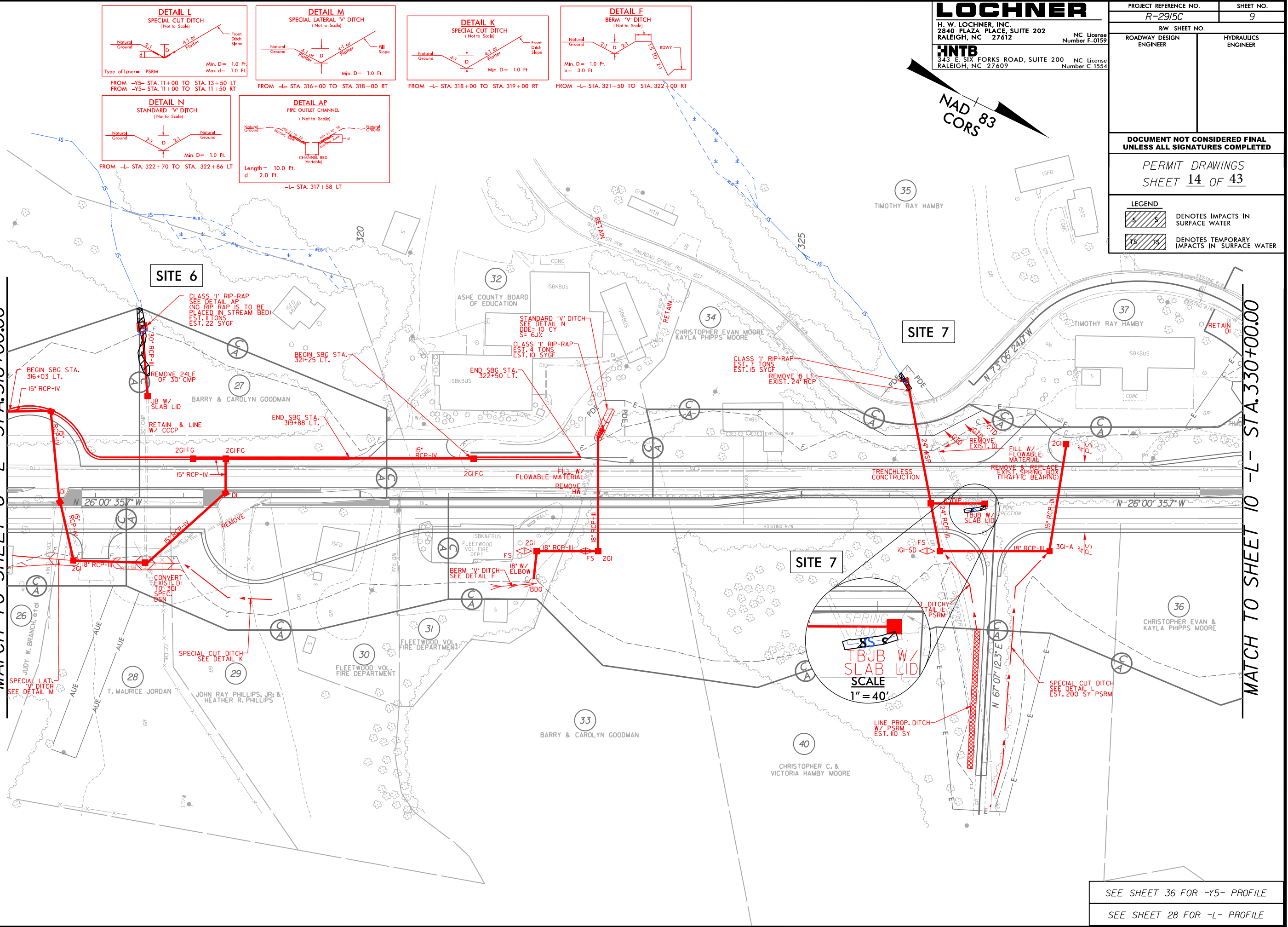
8/17/99

1/2/54 PM
H:\CADD\PROJECTS\2915C-PRM-PSH09.dgn

REVISIONS

MATCH TO SHEET 8 -L- STA.316+00.00

MATCH TO SHEET 10 -L- STA.330+00.00



LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
NC License Number F-0159

INTB
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609
NC License Number C-1554

PROJECT REFERENCE NO.		SHEET NO.
R-2915C		9
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
PERMIT DRAWINGS SHEET 14 OF 43		
LEGEND		
DENOTES IMPACTS IN SURFACE WATER		
DENOTES TEMPORARY IMPACTS IN SURFACE WATER		

SEE SHEET 36 FOR -Y5- PROFILE
SEE SHEET 28 FOR -L- PROFILE

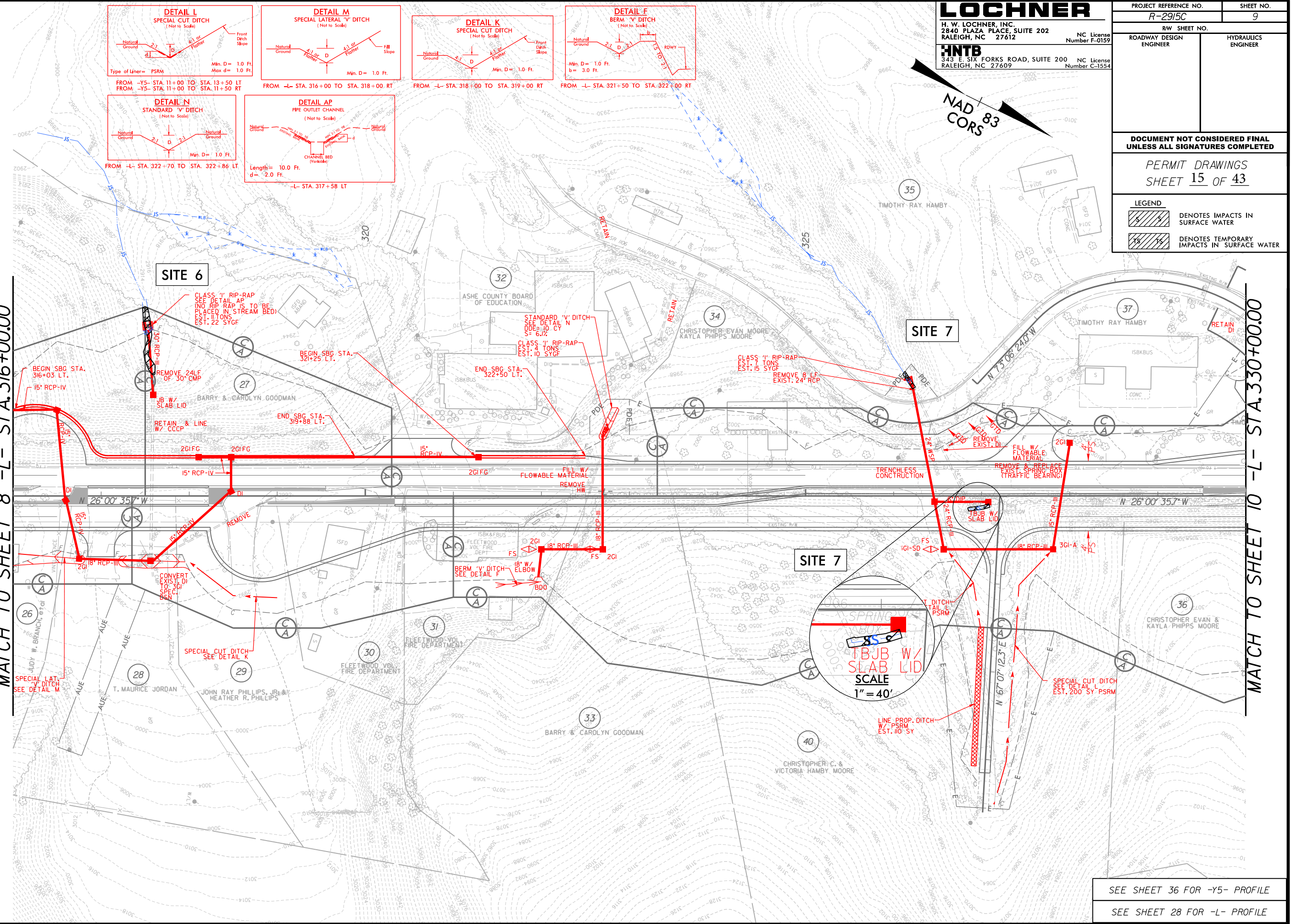
8/17/99

HA27 PM
3/3/2011
PSH09.C.dgn

REVISIONS

MATCH TO SHEET 8 -L- STA.316+00.00

MATCH TO SHEET 10 -L- STA.330+00.00

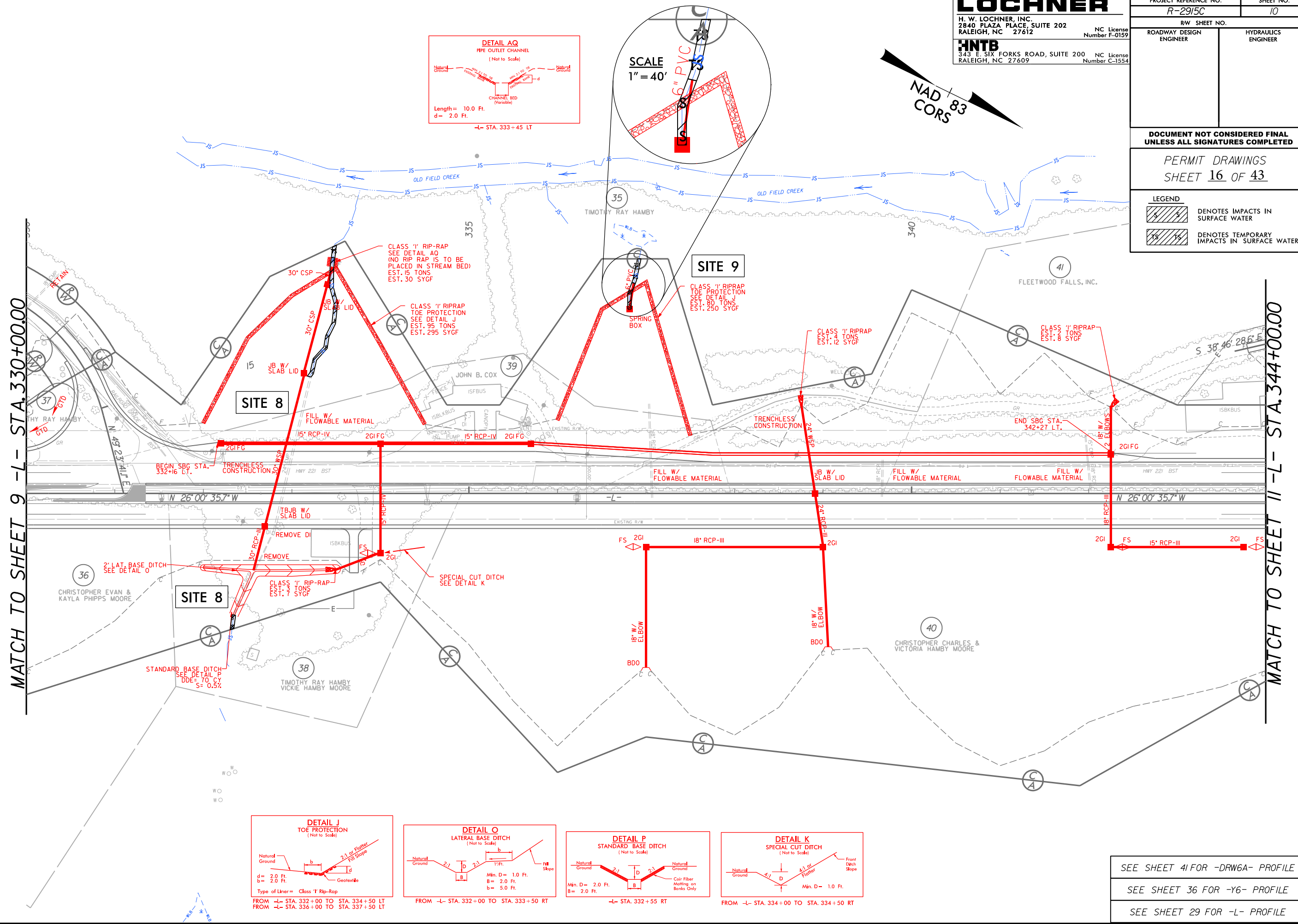


**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

PERMIT DRAWINGS
SHEET 16 OF 43

LEGEND

	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SEE SHEET 41 FOR -DRW6A- PROFILE
SEE SHEET 36 FOR -Y6- PROFILE
SEE SHEET 29 FOR -L- PROFILE

8/17/99

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

NC License
Number F-0159

HNTB

343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609

NC License
Number C-1554

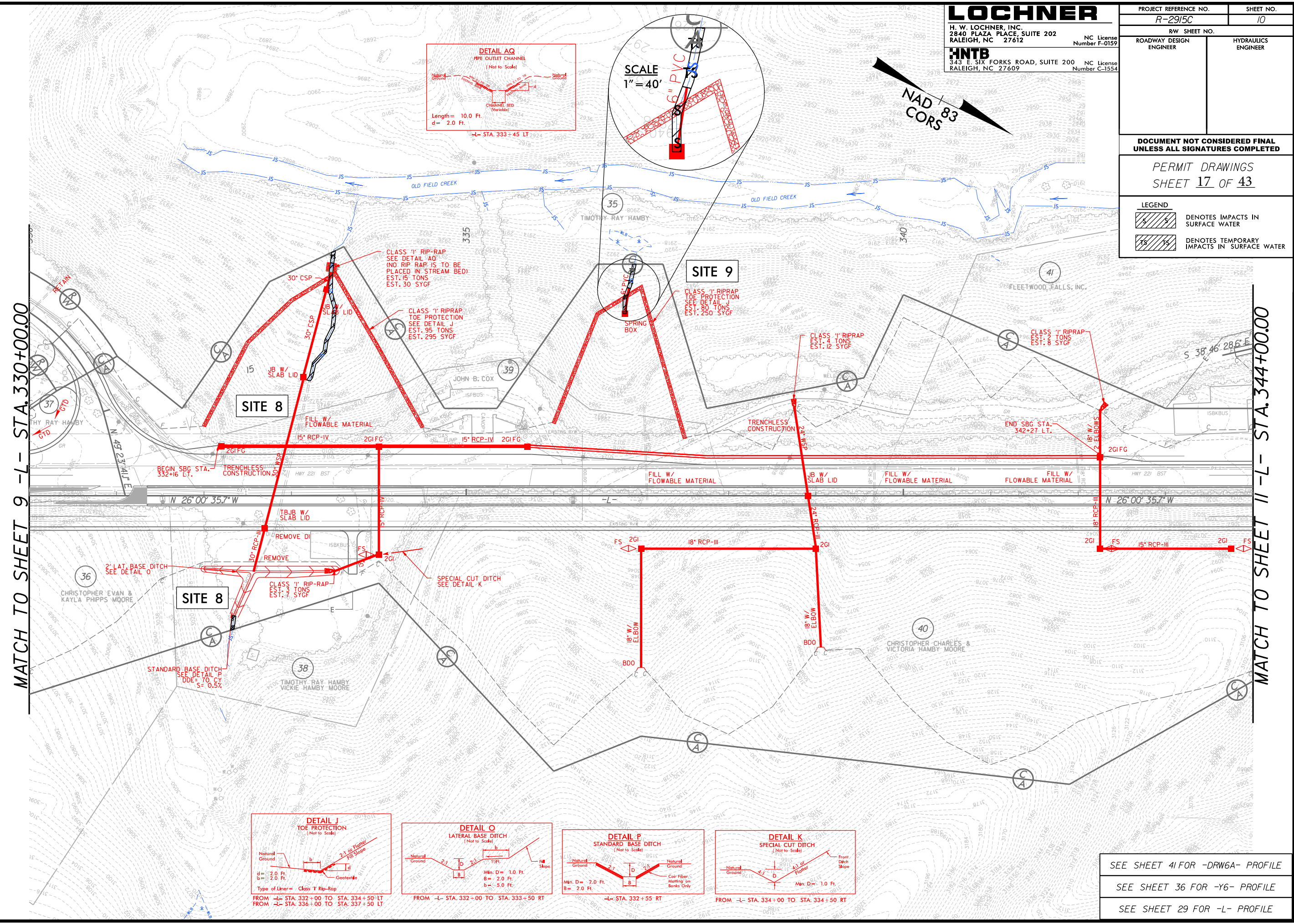
PROJECT REFERENCE NO. **R-2915C** SHEET NO. **10**

RW SHEET NO. ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWINGS
SHEET 17 OF 43

LEGEND	
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER



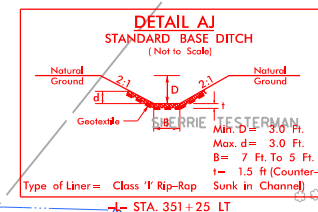
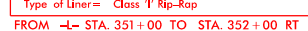
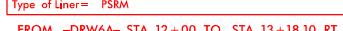
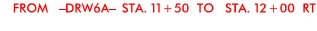
MATCH TO SHEET 9 -L- STA. 330+00.00

MATCH TO SHEET 11 -L- STA. 344+00.00

REVISIONS

4:33:30 PM
C:\psh10.C.dgn
P:\P\PSH10.C.dgn

SEE SHEET 41 FOR -DRW6A- PROFILE
SEE SHEET 36 FOR -Y6- PROFILE
SEE SHEET 29 FOR -L- PROFILE

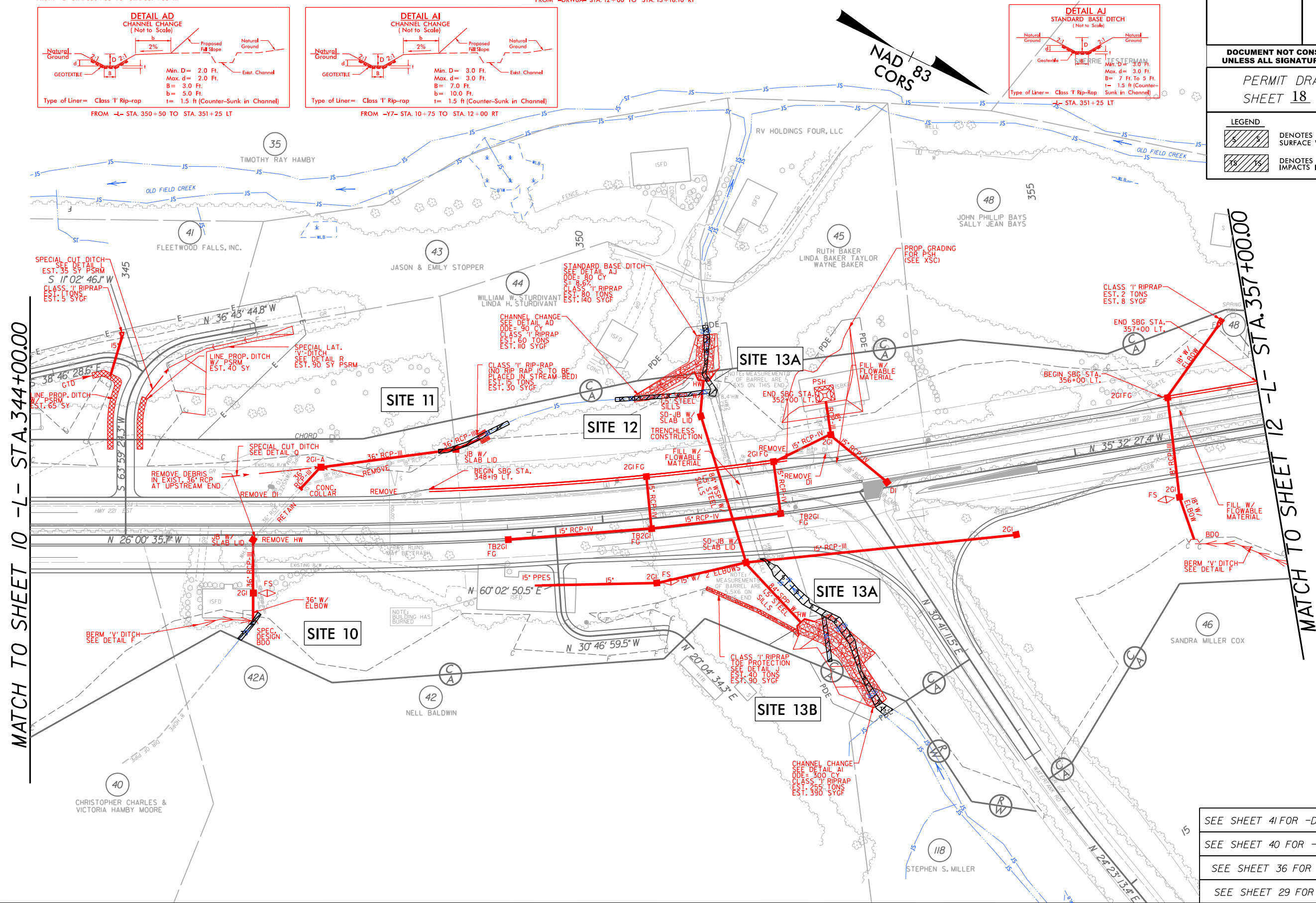


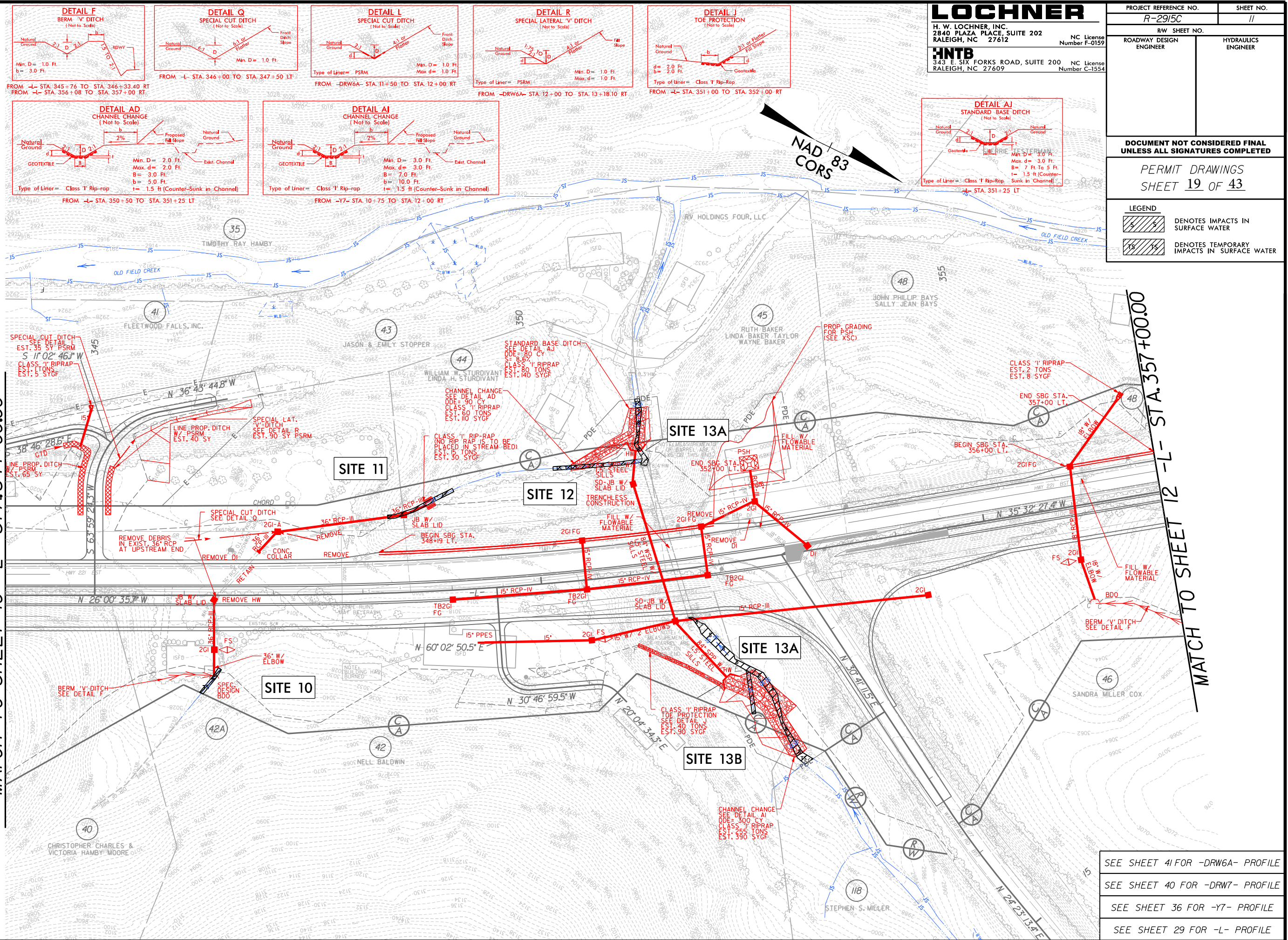
SEE SHEET 41 FOR -DRW6A- PROFILE

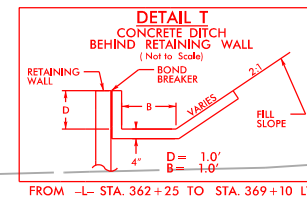
SEE SHEET 40 FOR -DRW7- PROFILE

SEE SHEET 36 FOR -Y7- PROFILE

SEE SHEET 29 FOR -L- PROFILE







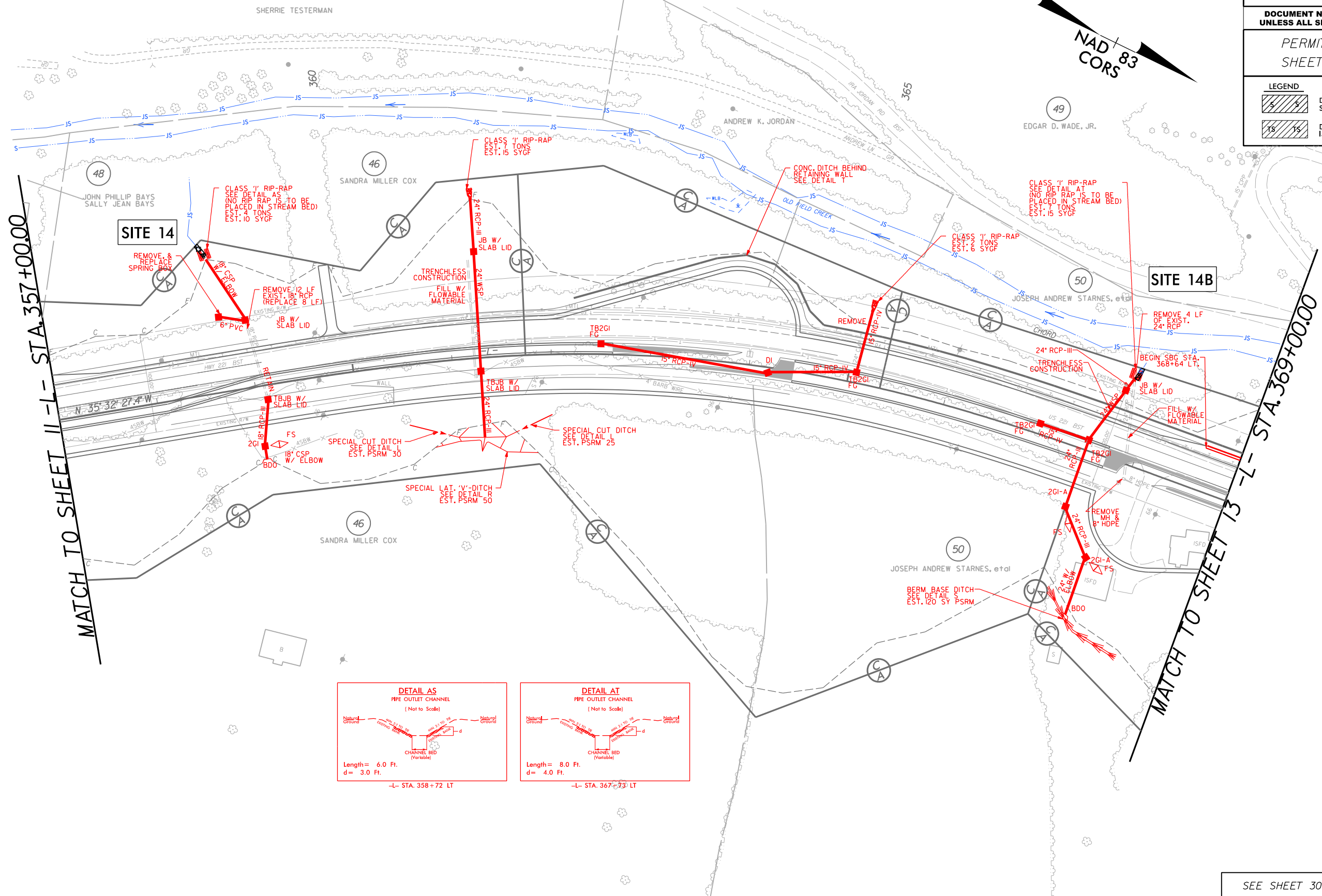
HNTB
343 E. SIX FORKS ROAD, SUITE 200 NC License
RALEIGH, NC 27609 Number C-1554

RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

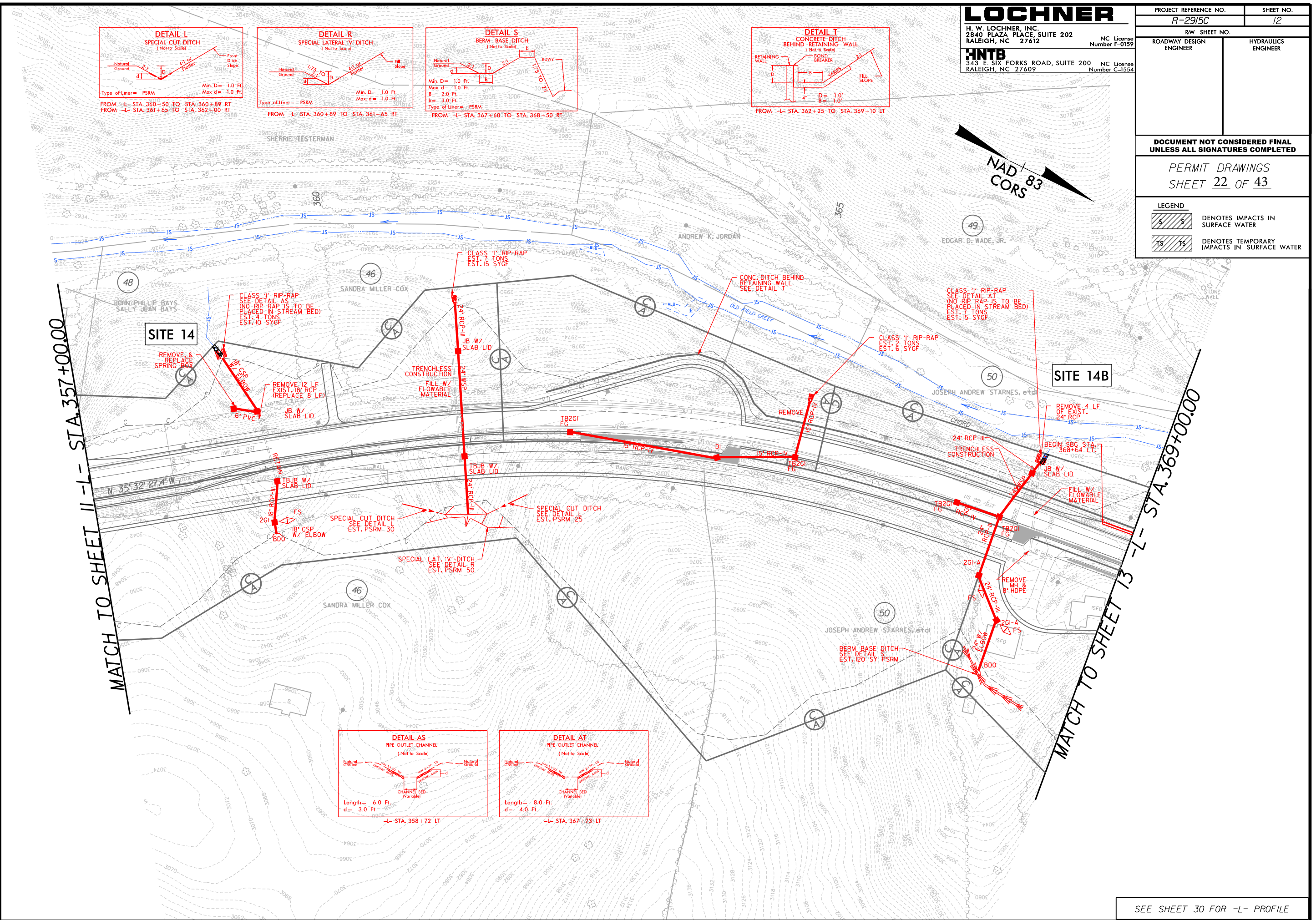
PERMIT DRAWINGS
SHEET 21 OF 43

LEGEND

	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SEE SHEET 30 FOR -L- PROFILE



SEE SHEET 30 FOR -L- PROFILE

RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENGINEER	ENGINEER
e 4	

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

PERMIT DRAWINGS
SHEET 23 OF 43

LEGEND

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

MATCH TO SHEET 12 -L- STA. 369+00.00

REVISIONS

\\48:21AM
...\\Drawings\\R2915C-prm_PSH13.dgn

RCBC TO BE BACKFILLED
W/LARGE NATIVE MATERIAL.

SEE SHEET 2D-1 FOR DITCH DETAILS

SEE SHEET 41 FOR -DRW9- PROFILE
SEE SHEET 37 FOR -Y8- PROFILE
SEE SHEET 39 FOR -Y8A- PROFILE
SEE SHEET 37 FOR -Y8B- PROFILE
SEE SHEET 37 FOR -Y9- PROFILE
SEE SHEET 30 FOR -L- PROFILE

NC License
Number F-0159

00 NC License
Number C-1554

75	
	HYDRAULICS ENGINEER

PERMIT DRAWINGS
SHEET 24 OF 43

 IMPACTS IN SURFACE WATER WETLAND

• **Clearing**

REVISIONS

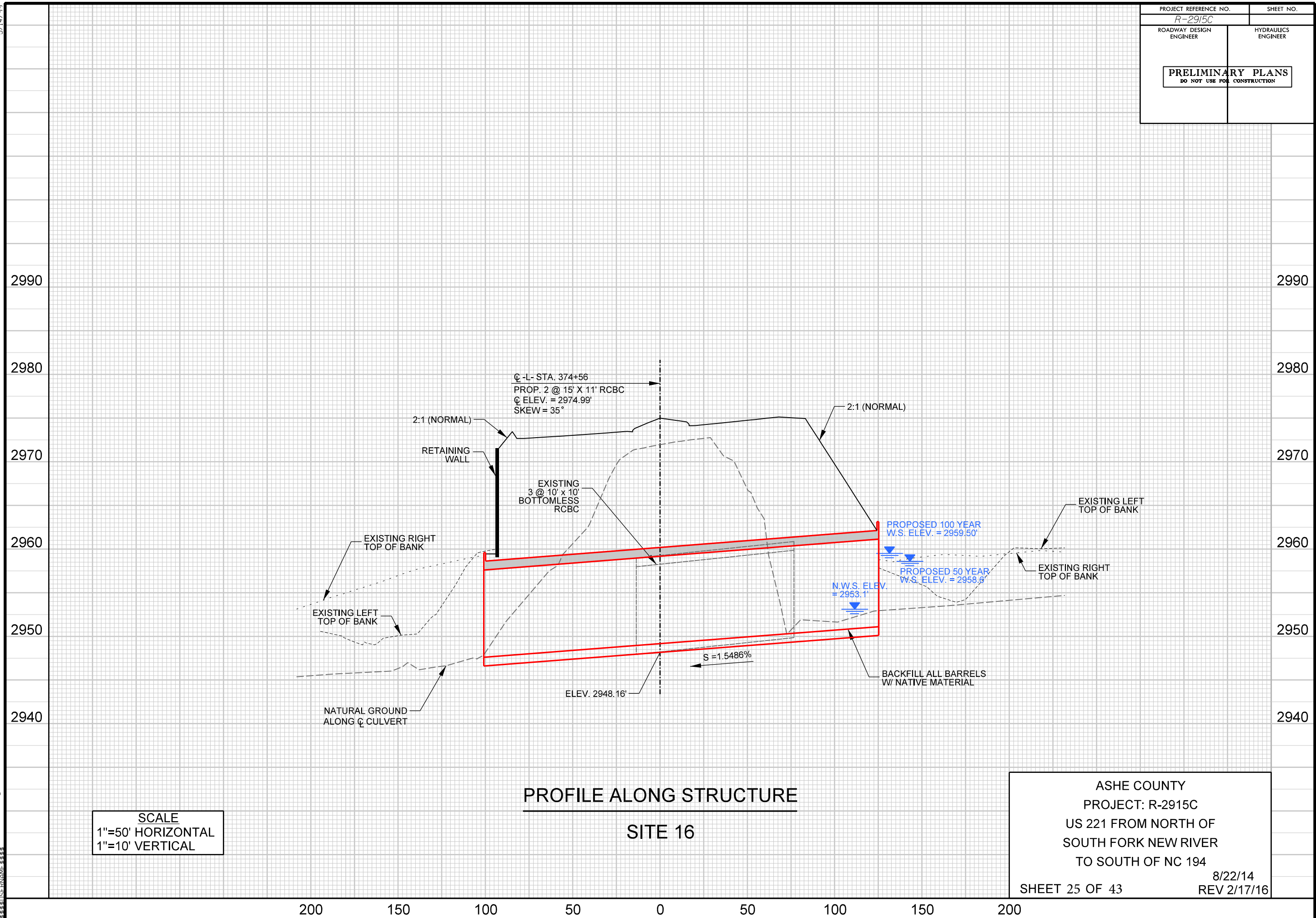
11:49:43 AM
...\\R2915C-prm_PSH13-C.dgn
HNTR

SEE SHEET 30 FOR -L- PROFILE

SEE SHEET 2D-1 FOR DITCH DETAILS

5/14/99
10:40:14 AM
\\nas111\proj\1511\hyd\Culvert_Profile.dgn

PROJECT REFERENCE NO.		SHEET NO.
R-2915C		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		



SCALE
1"=50' HORIZONTAL
1"=10' VERTICAL

PROFILE ALONG STRUCTURE
SITE 16

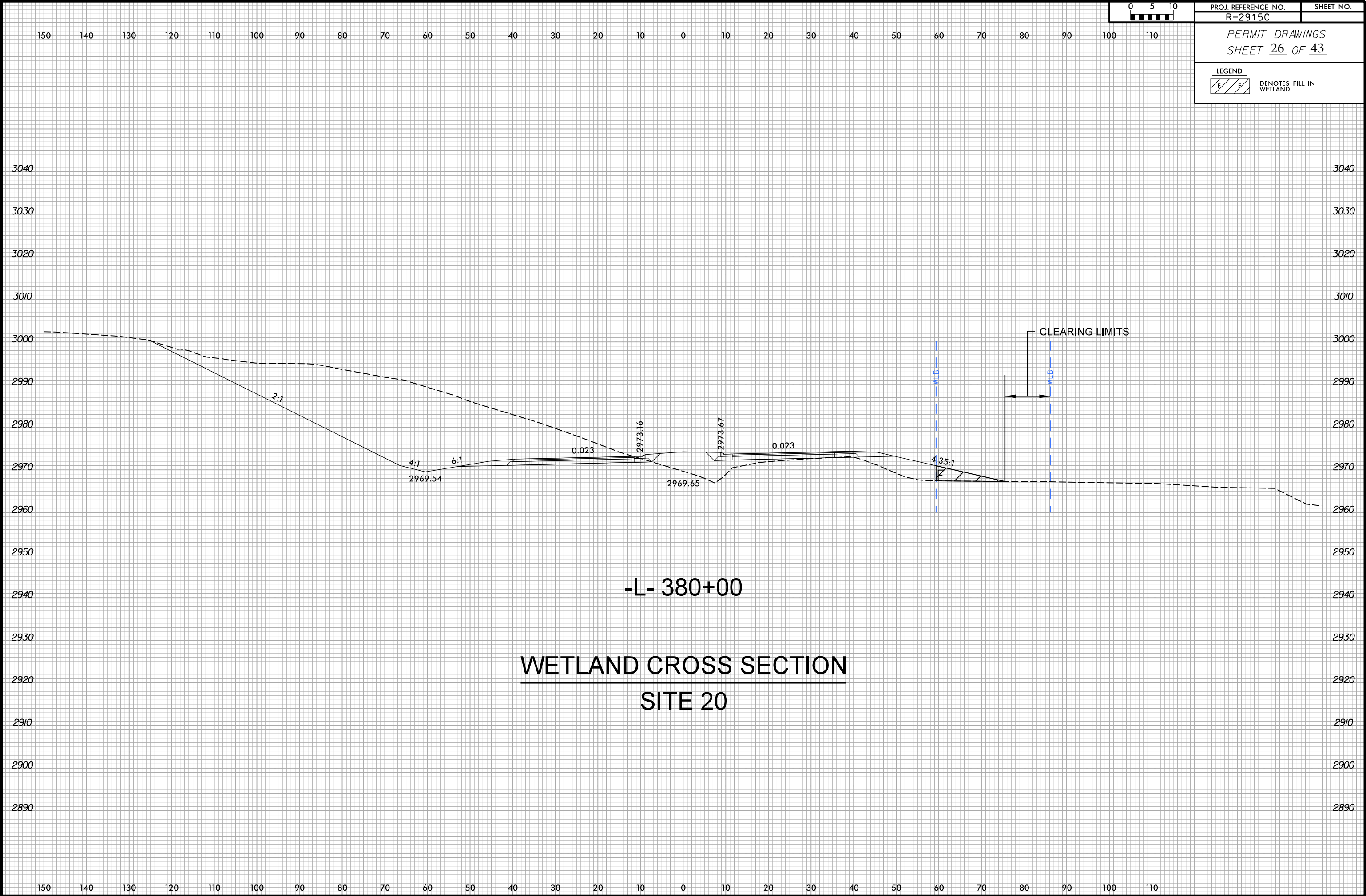
ASHE COUNTY
PROJECT: R-2915C
US 221 FROM NORTH OF
SOUTH FORK NEW RIVER
TO SOUTH OF NC 194
SHEET 25 OF 43
8/22/14
REV 2/17/16

8/23/99

11:05:59 AM
\\s01c01\proj\06\Wetland\Wetland.XSC.dgn
User: jmc



PROJ. REFERENCE NO.	SHEET NO.
R-2915C	
PERMIT DRAWINGS SHEET 26 OF 43	
LEGEND	
	DENOTES FILL IN WETLAND



8/17/99

REVISIONS

149.45 PM
C:\p00\proj\2915C-prm_PSH14.dgn
3/3/99

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
NC License
Number F-0159
INTB
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609
NC License
Number C-1554

PROJECT REFERENCE NO.
R-2915C
SHEET NO.
14

RW SHEET NO.
ROADWAY DESIGN
ENGINEER
HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

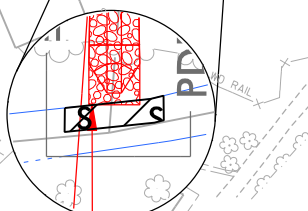
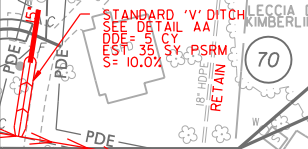
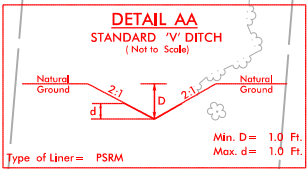
PERMIT DRAWINGS
SHEET *27* OF *43*

LEGEND
DENOTES IMPACTS IN
SURFACE WATER

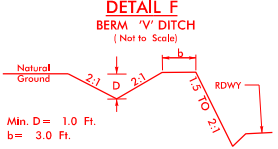
MATCH TO SHEET 22
-YII- STA. 12+00.00

MATCH TO SHEET 13 -L- STA. 381+00.00

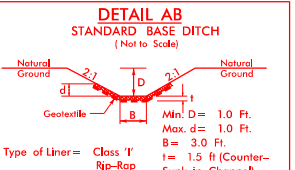
MATCH TO SHEET 15 -L- STA. 393+00.00



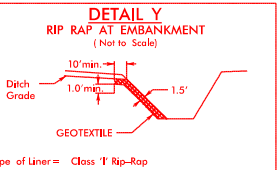
SCALE
1" = 40'



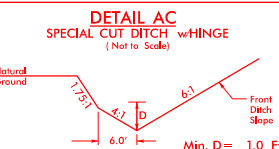
FROM -L- STA. 381+00 TO STA. 382+80 LT



-L- STA. 382+05 RT



-L- STA. 382+05 RT



FROM -L- STA. 392+50 TO STA. 393+00 LT

SEE SHEET 41 FOR -DRW10- PROFILE

SEE SHEET 41 FOR -DRW11- PROFILE

SEE SHEET 37 FOR -Y10- PROFILE

SEE SHEET 38 FOR -Y11- PROFILE

SEE SHEET 31 FOR -L- PROFILE

8/17/99

\\34301\MAN\Projects\2915C-prm_PSH15.dgn

REVISIONS

NAD
CORS 83

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

NC License
Number F-0159

INTB
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609

NC License
Number C-1554

PROJECT REFERENCE NO.

R-2915C

SHEET NO.

15

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWINGS
SHEET 29 OF 43

LEGEND



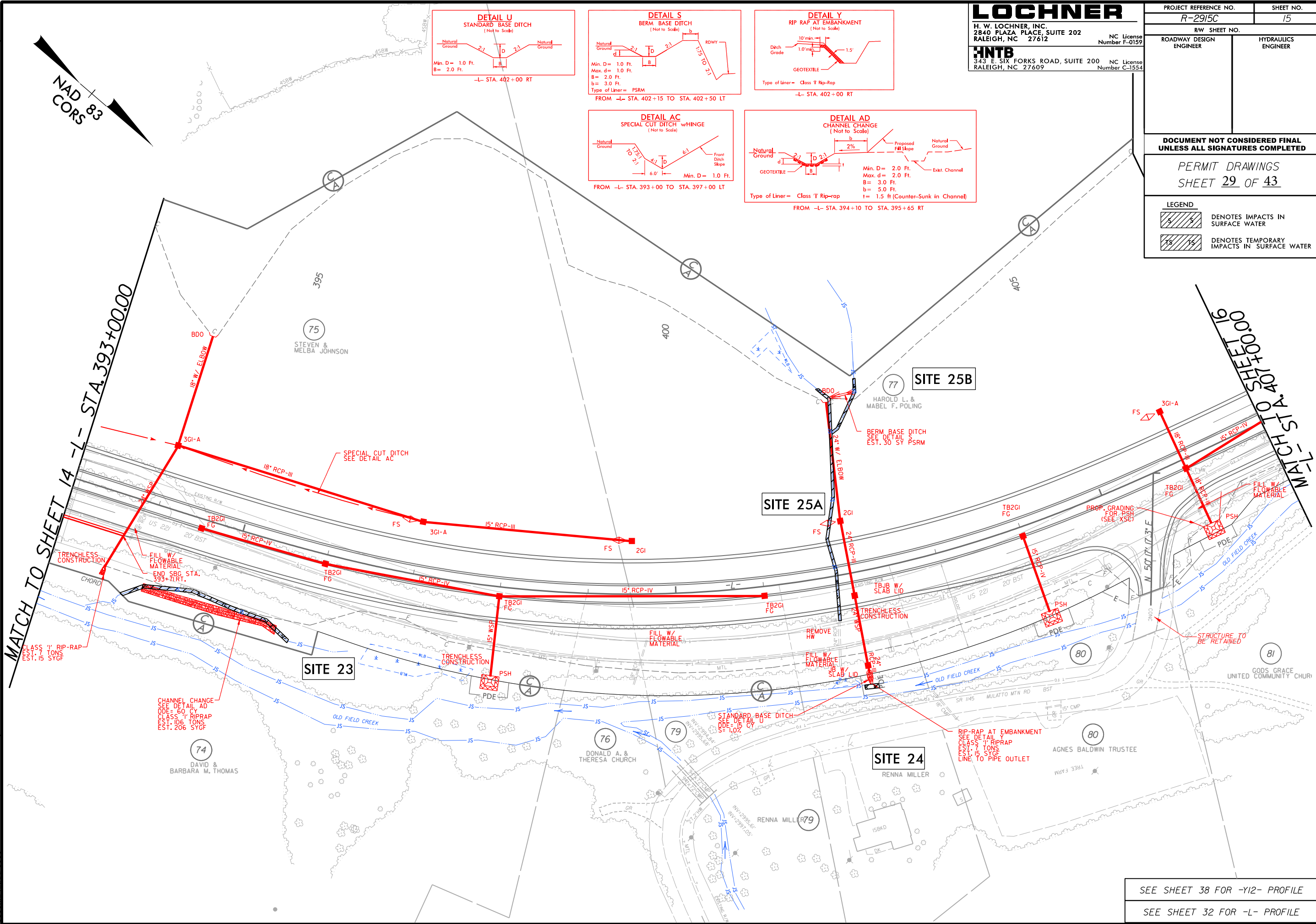
DENOTES IMPACTS IN
SURFACE WATER



DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

MATCH TO SHEET 14 -L- STA. 393+00.00

MATCH TO SHEET 16 -L- STA. 407+00.00



SEE SHEET 38 FOR -Y12- PROFILE

SEE SHEET 32 FOR -L- PROFILE

NC License
Number F-0159

00 NC License
Number C-1554

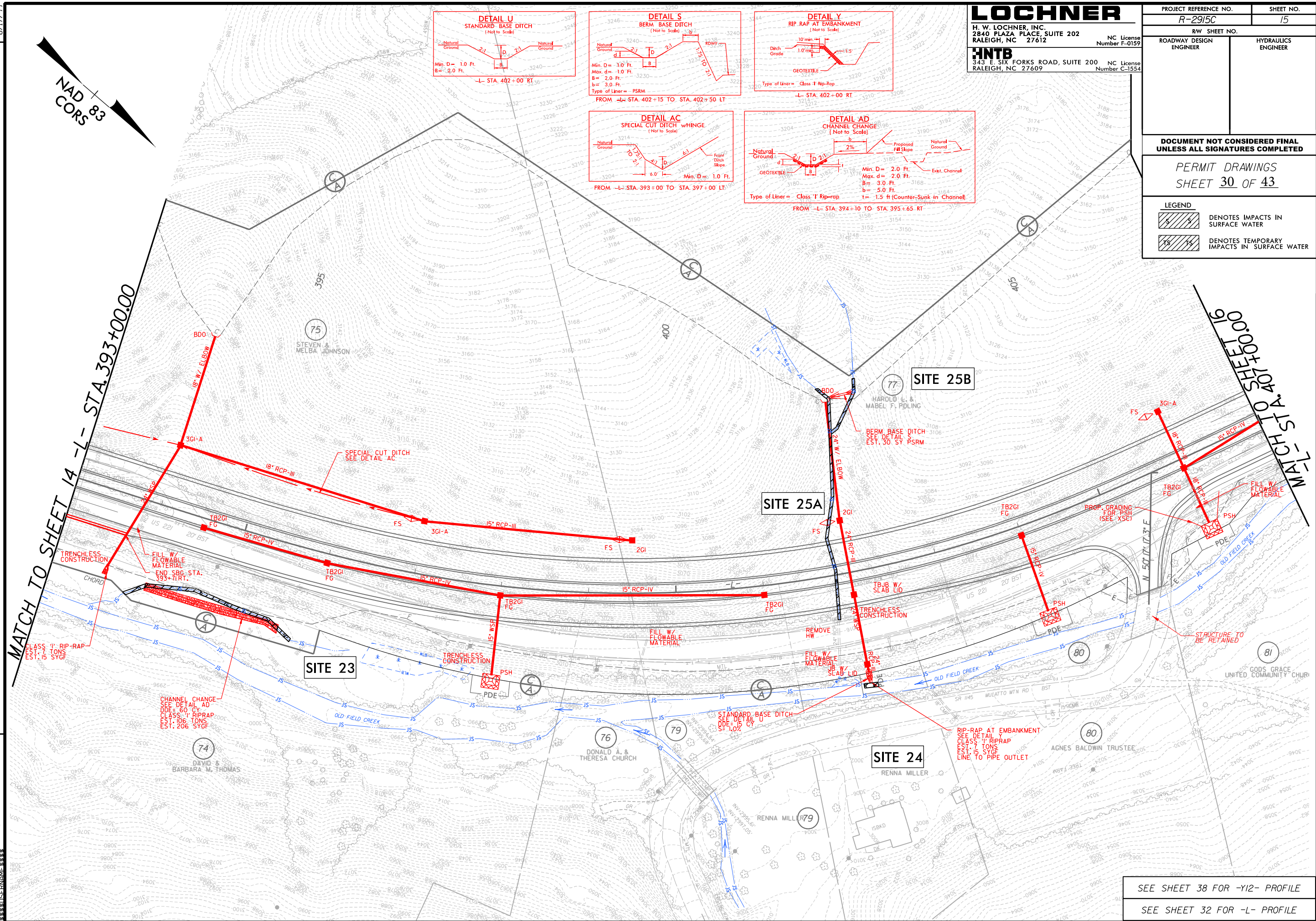
HYDRAULICS
ENGINEER

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

PERMIT DRAWINGS
SHEET 30 OF 43

LEGEND

	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SEE SHEET 38 FOR -YI2- PROFILE
SEE SHEET 32 FOR -L- PROFILE

```

11:38:14 AM
...\\P2915C-prm-PSH15-C.dgn
$$$$$USERNAME$$$$$

```


8/17/99

12:07:40 PM
R2915C-prm_PSH16.dgn
3336113333

REVISIONS

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

NC License
Number F-0159

HNTB

343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609

NC License
Number C-1554

PROJECT REFERENCE NO.

R-2915C

SHEET NO.

16

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWINGS
SHEET 31 OF 43

LEGEND



DENOTES IMPACTS IN
SURFACE WATER



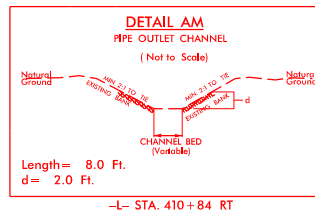
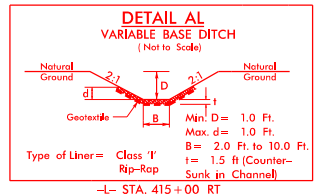
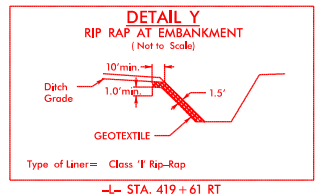
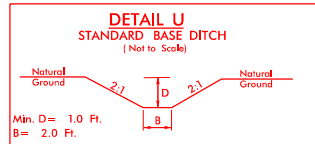
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



DENOTES FILL IN
WETLAND

MATCH TO SHEET 23 -L- STA. 413+50 @ 625.00' LT.

NAD
CORS 83



77
HAROLD L. &
MABEL F. POLING

82
GERTRUDE LUCAS

85
NELL B. BALDWIN

84
BOBBY R. HAM

86
JOHN D. & SHIRLEY H. BALDWIN
et al

MATCH TO SHEET 15
-L- STA. 407+00.00

MATCH TO SHEET 17 -L- STA. 420+00.00

SITE 26
TOTAL TAKE

SITE 27

CLASS 'I' RIP-RAP
SEE DETAIL AM
(NO RIP RAP IS TO BE
PLACED IN STREAM BED)
EST. 7 TONS
EST. 15 SYCF

VARIABLE BASE DITCH
SEE DETAIL AL
DDE = 70 CY
DDE = 0.3%
CLASS 'I' RIPRAP
EST. 20 TONS
EST. 40 SYCF
SEE XSC FOR
GRADING

CLASS 'I' RIP-RAP
EST. 15 SYCF

RIP-RAP AT EMBANKMENT
SEE DETAIL Y
CLASS 'I' RIPRAP
EST. 7 TONS
EST. 15 SYCF
LINE TO PIPE OUTLET
STANDARD BASE DITCH
SEE DETAIL U
DDE = 15 CY
S = 1.0%

81
GODS GRACE
UNITED COMMUNITY CHURCH

83
RENNA SUE MILLER

87
NELL BALDWIN

SEE SHEET 33 FOR -L- PROFILE

8/17/99

REVISIONS

12:09:53 PM
C:\p16\PSH16.C.dgn
P16

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

NC License
Number F-0159

HNTB
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609

NC License
Number C-1554

PROJECT REFERENCE NO.

R-2915C

SHEET NO.

16

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWINGS
SHEET 32 OF 43

LEGEND



DENOTES IMPACTS IN
SURFACE WATER



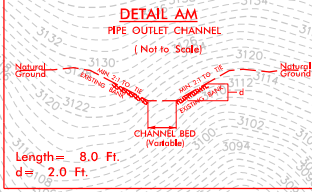
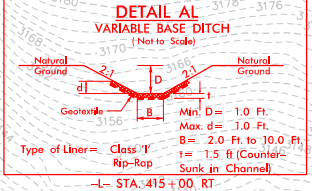
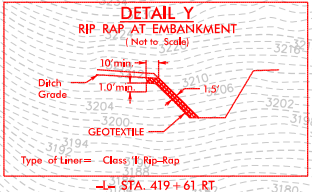
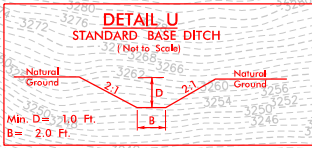
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



DENOTES FILL IN
WETLAND

MATCH TO SHEET 23 -L- STA.413+50 @ 625.00' LT.

NAD
CORS 83



MATCH TO SHEET 15
-L- STA. 407+00.00

MATCH TO SHEET 17 -L- STA. 420+00.00

SITE 26
TOTAL TAKE

SITE 27

CLASS 'Y' RIP-RAP
SEE DETAIL Y
(NO RIP-RAP IS TO BE
PLACED IN STREAM BED)
EST. 1.5 SYCF

VARIABLE BASE DITCH
SEE DETAIL AL
EST. 0.37
CLASS 'Y' RIP-RAP
EST. 1.5 SYCF
SEE DETAIL Y FOR
GRADING

CLASS 'Y' RIP-RAP
EST. 1.5 SYCF

RIP-RAP AT EMBANKMENT
SEE DETAIL Y
CLASS 'Y' RIP-RAP
EST. 1.5 SYCF
LINE TO PIPE OUTLET
STANDARD BASE DITCH
SEE DETAIL U
D = 1.0 FT.
B = 2.0 FT.

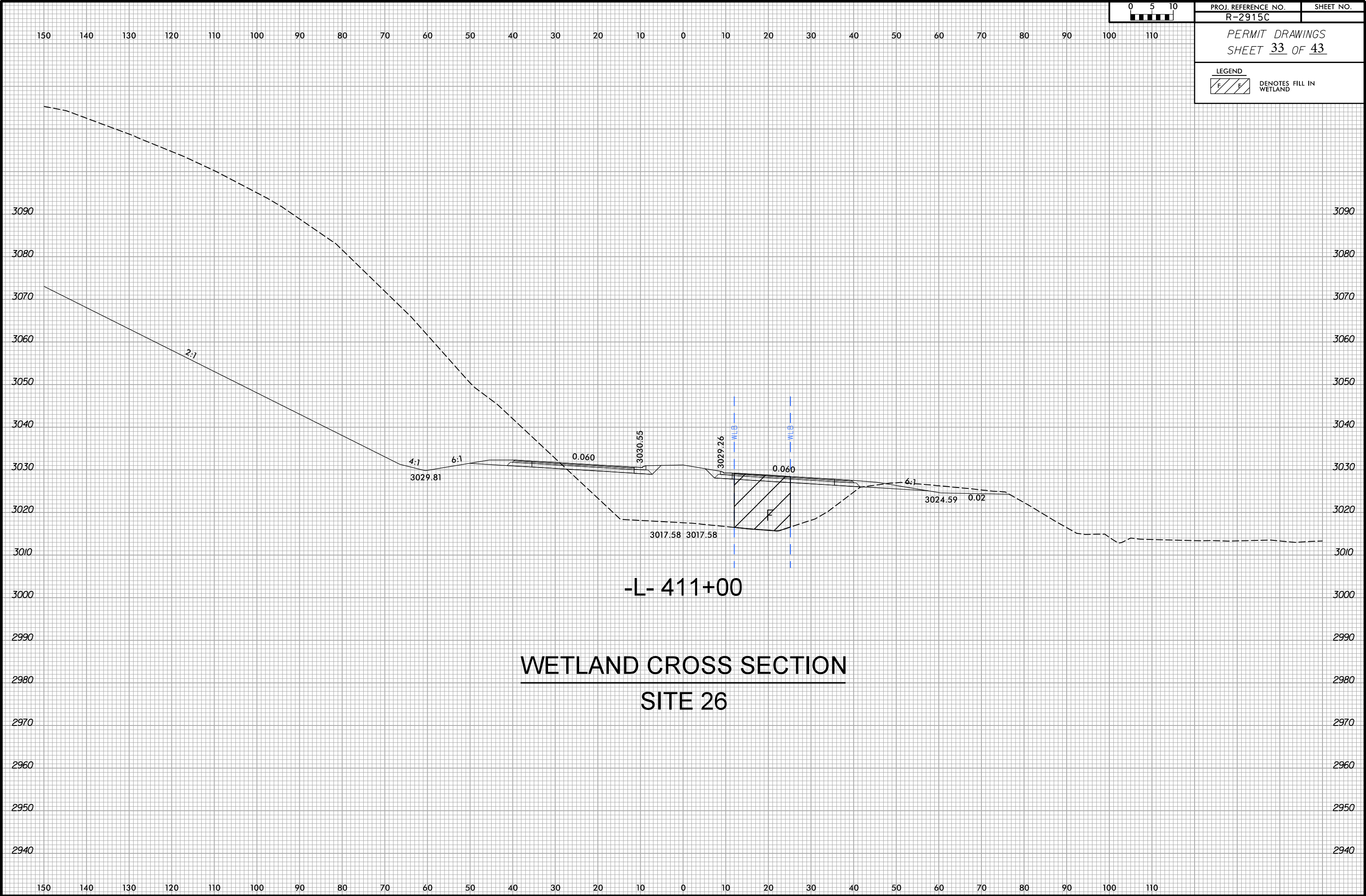
SEE SHEET 33 FOR -L- PROFILE

8/23/99

12:16:32 PM
C:\Users\jmc\Documents\Wetland_XSC.dgn



PROJ. REFERENCE NO.	SHEET NO.
R-2915C	
PERMIT DRAWINGS SHEET 33 OF 43	
LEGEND  DENOTES FILL IN WETLAND	



8/17/99

12:45:25 PM
\\nasr2915c-prm-PSH17.dgn
33861388

REVISIONS

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

NC License
Number F-0159

HNTB

343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609

NC License
Number C-1554

PROJECT REFERENCE NO.

R-2915C

SHEET NO.

17

RW SHEET NO.

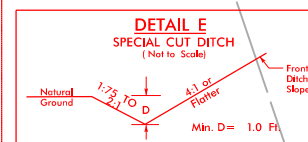
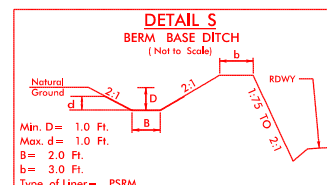
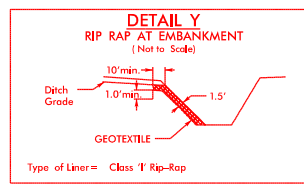
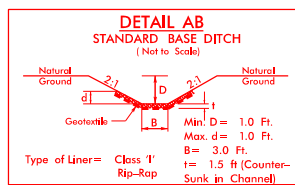
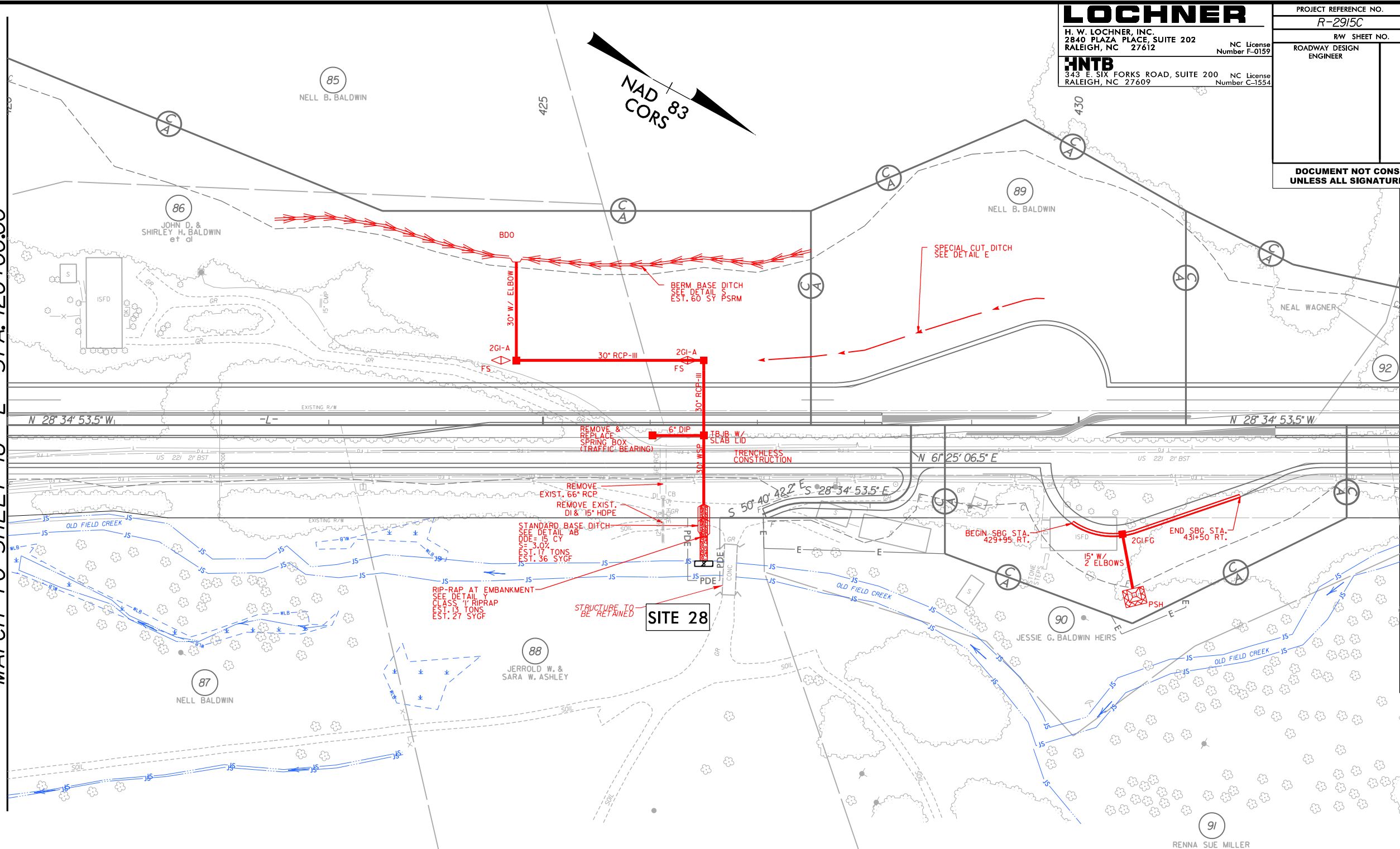
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

MATCH TO SHEET 16 -L- STA. 420+00.00

MATCH TO SHEET 18 -L- STA. 433+00.00



PERMIT DRAWINGS
SHEET 34 OF 43

LEGEND
DENOTES IMPACTS IN
SURFACE WATER

SEE SHEET 41 FOR -DRW13- PROFILE

SEE SHEET 33 FOR -L- PROFILE

8/17/99

REVISIONS

12/21/2018
3:38 PM
C:\Users\jps\OneDrive\Documents\2915C_PSH18.dgn

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

NC License
Number F-0159

HNTB

343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609

NC License
Number C-1554

PROJECT REFERENCE NO.

R-2915C

SHEET NO.

18

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWINGS
SHEET 36 OF 43

LEGEND



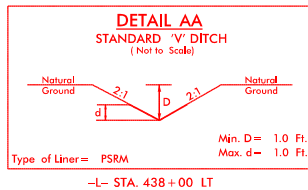
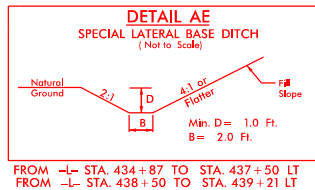
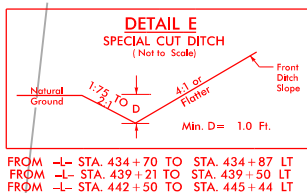
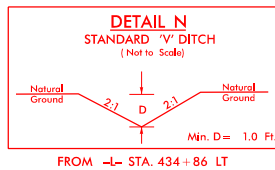
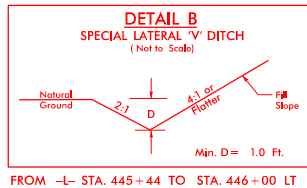
DENOTES FILL IN
WETLAND



DENOTES MECHANIZED
CLEARING

MATCH TO SHEET 17 -L- STA. 433+00.00

MATCH TO SHEET 19 -L- STA. 446+00.00



SEE SHEET 38 FOR -Y13- PROFILE

SEE SHEET 38 FOR -Y14- PROFILE

SEE SHEET 34 FOR -L- PROFILE

8/17/99

REVISIONS

12/23/03 PM
PSH18.C.dgn

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

NC License
Number F-0159

HNTB

343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609

NC License
Number C-1554

PROJECT REFERENCE NO.

R-2915C

SHEET NO.

18

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWINGS
SHEET 37 OF 43

LEGEND



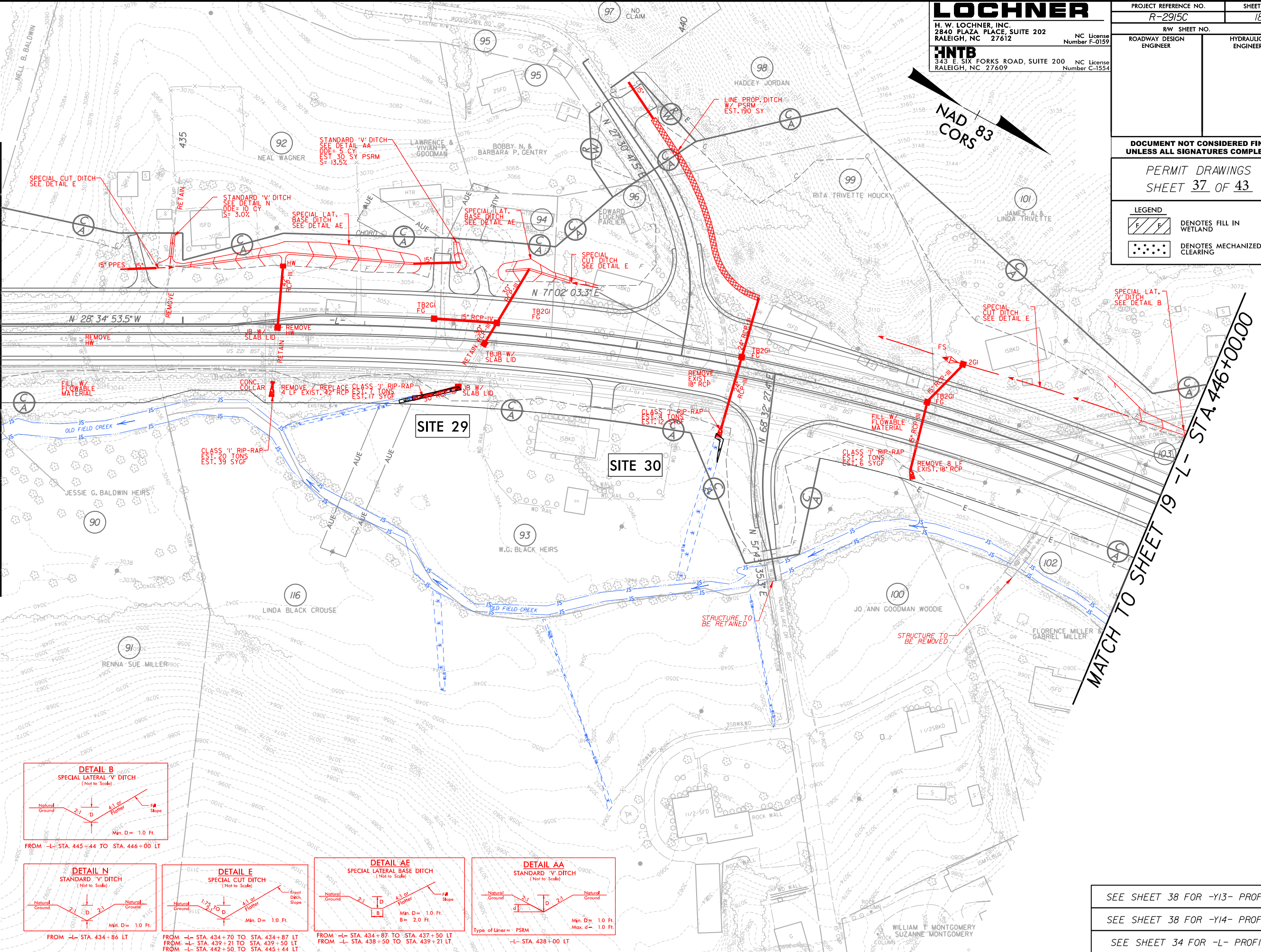
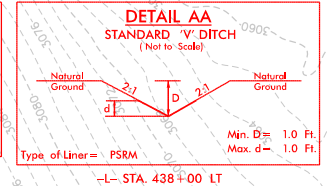
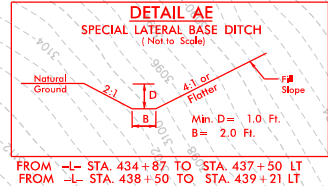
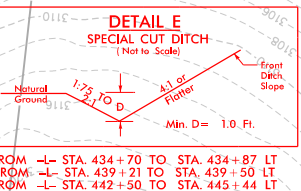
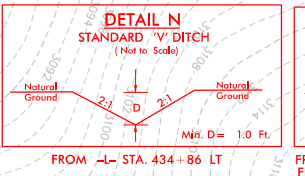
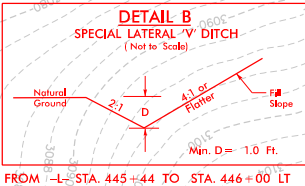
DENOTES FILL IN
WETLAND



DENOTES MECHANIZED
CLEARING

MATCH TO SHEET 17 -L- STA. 433+00.00

MATCH TO SHEET 19 -L- STA. 446+00.00



SEE SHEET 38 FOR -Y13- PROFILE

SEE SHEET 38 FOR -Y14- PROFILE

SEE SHEET 34 FOR -L- PROFILE

8/17/99

REVISIONS

12/28/08 PM
PSH19.C.dgn
338113

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

NC License
Number F-0159

INTB

343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609

NC License
Number C-1554

PROJECT REFERENCE NO.

R-2915C

SHEET NO.

19

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

MATCH TO SHEET 18 -L- STA. 446+00.00

MATCH TO SHEET 20 -L- STA. 458+00.00

NAD 83
CORS

106

JOHN C. &
NANCY P. EDWARDS

101

JAMES A. &
LINDA TRIVETTE

107

JEFF & MARGIE SMITH

108

JOANN GREER

RODERICK E. &
KENA EDWARDS SLOOP

BALDWIN BETHANY CEMETERY

BETHANY CEMETERY

BETHANY UNITED
METHODIST CHURCH

SITE 31

102

JOANN GREER

110

BARRY K. &
SANDRA T. LIDDLE

MARTIN MARTINEZ
SALDANA

BETTY SUE HOUCK

FLORENCE MILLER &
GABRIEL MILLER

JO ANN GOODMAN WOODIE

TONY A. ELDRETH
SHARON W. ELDRETH

ARVELL &
BERTHA GROCAN

MARTIN M. SALDANA

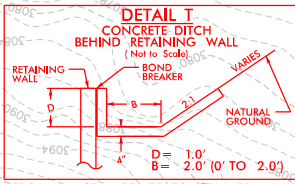
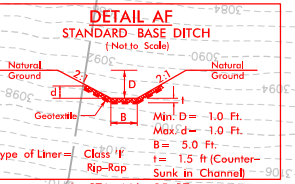
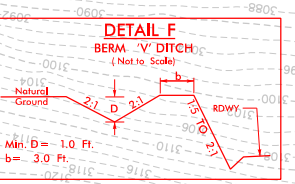
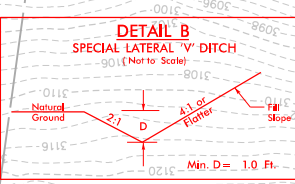
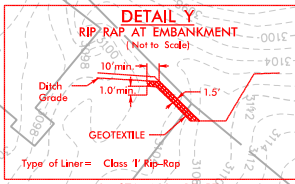
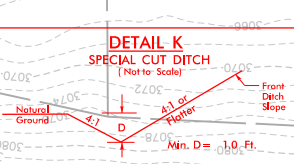
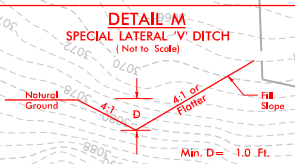
ISFD

ISFD

HTR

HTR

ISBKD



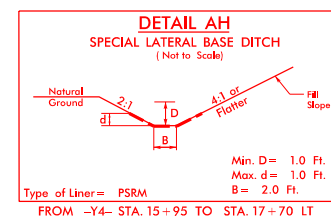
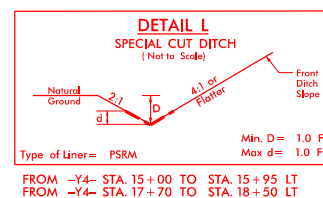
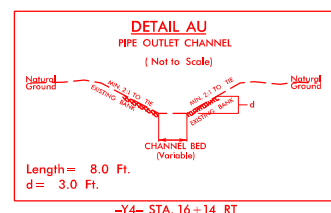
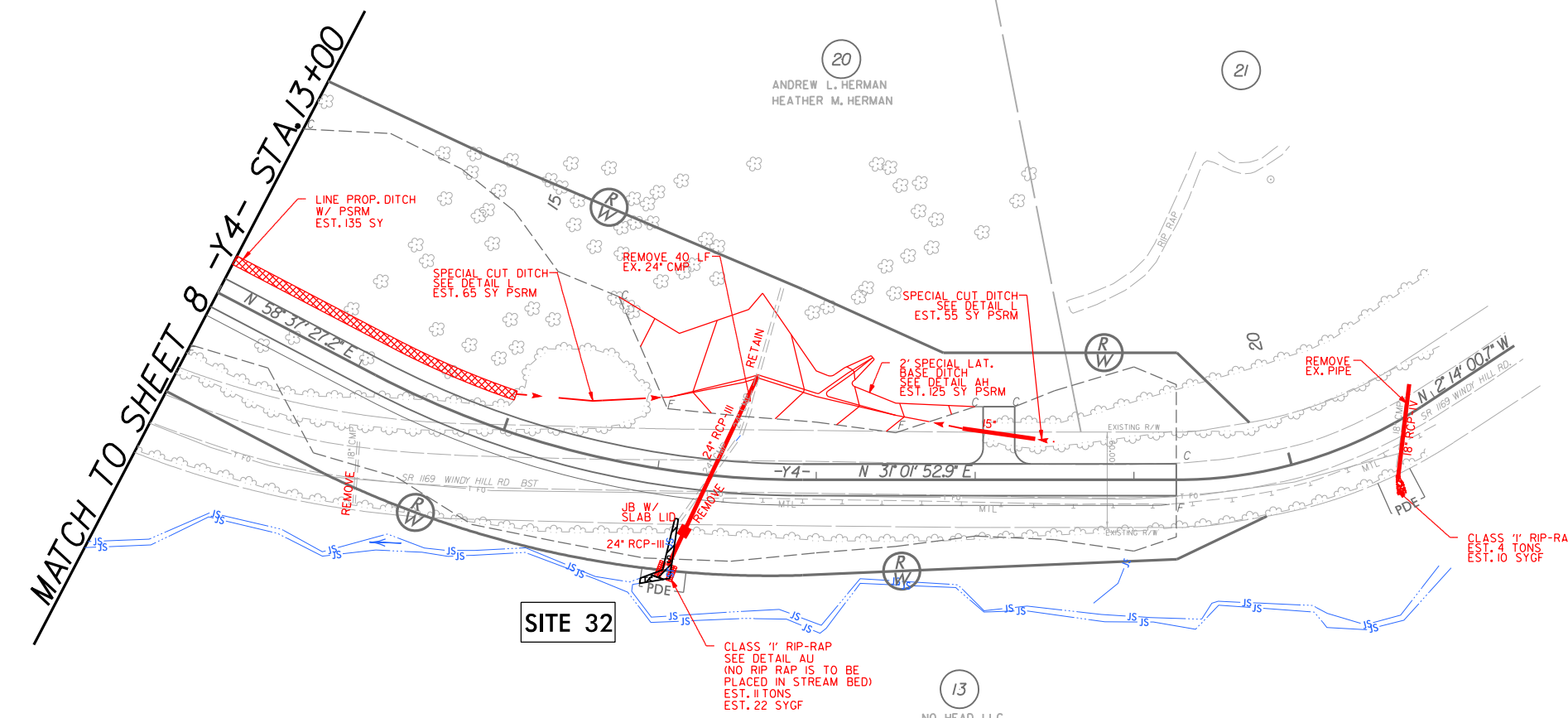
PERMIT DRAWINGS
SHEET 39 OF 43

LEGEND
DENOTES IMPACTS IN
SURFACE WATER

SEE SHEET 41 FOR -RW12- PROFILE

SEE SHEET 38 FOR -Y15- PROFILE

SEE SHEET 34 FOR -L- PROFILE



SEE SHEET 36 FOR -Y4- PROFILE

8/17/99

REVISIONS

12/3/08 PM
PSH21.C.dgn
PSH21

LOCHNER

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612

NC License
Number F-0159

HNTB

343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NC 27609

NC License
Number C-1554

PROJECT REFERENCE NO.

R-2915C

SHEET NO.

21

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWINGS
SHEET 41 OF 43

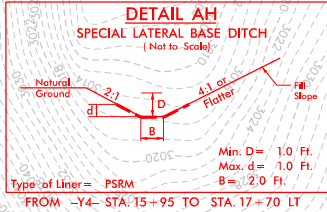
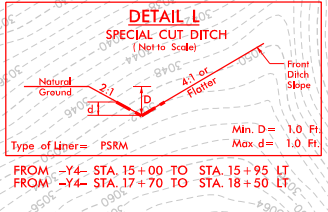
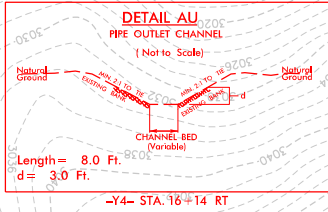
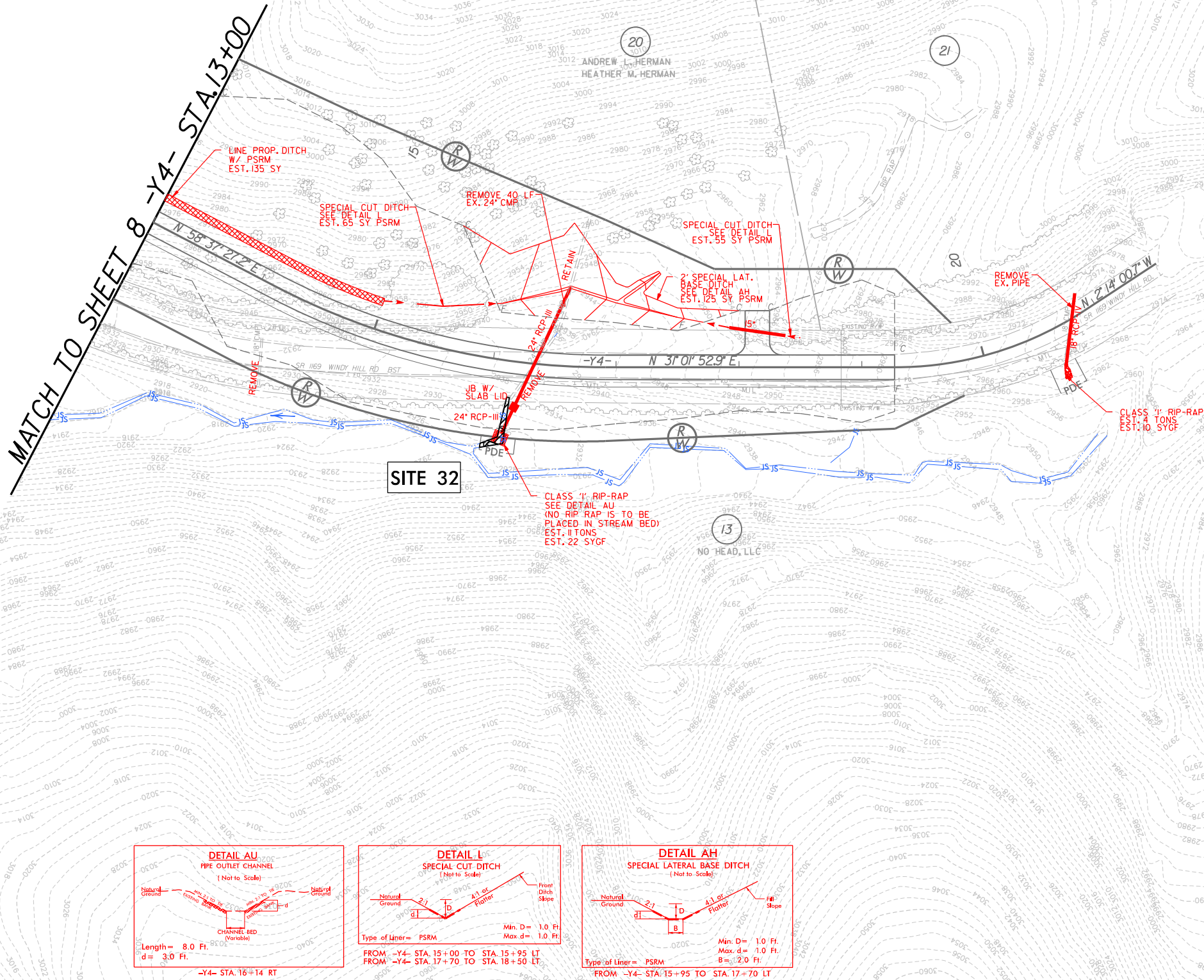
LEGEND



DENOTES IMPACTS IN
SURFACE WATER



DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



SEE SHEET 36 FOR -Y4- PROFILE

WETLAND PERMIT IMPACT SUMMARY (SHEET 1)												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands	Temp. Fill In Wetlands	Excavation in Wetlands	Mechanized Clearing in Wetlands	Hand Clearing in Wetlands	Permanent SW impacts	Temp. SW impacts	Existing Channel Impacts Permanent	Existing Channel Impacts Temp.	Natural Stream Design
Site No.	Station (From/To)	Structure Size / Type	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ft)	(ft)	(ft)
1	-L- 263+91 - 265+17 (LT)	ROAD FILL / 6" PVC	0.14			0.02						
2A	-L- 265+62 - 266+07 (LT)	ROAD FILL	0.01			< 0.01			< 0.01	71	34	
2B	-L- 265+74 - 266+21 (LT)	BANK STABILIZATION						< 0.01	< 0.01	19	49	
3	-L- 272+17 - 272+34 (LT)	DITCH							< 0.01		10	
4	-L- 298+19 - 299+46	48" CSP						0.02	< 0.01	210	35	
		BANK STABILIZATION						< 0.01		16		
5	-L- 302+01 - 303+41	60" SPP & WSP						0.03	< 0.01	236	21	
		BANK STABILIZATION						< 0.01		20		
6	-L- 317+47 - 317+61 (LT)	30" RCP						< 0.01	< 0.01	53	17	
		BANK STABILIZATION						< 0.01		10		
7	-L- 326+84 - 327+09 (RT)	ROAD FILL						< 0.01	< 0.01	37	6	
8	-L- 332+30 - 333+52	30" CSP						0.01	< 0.01	134	29	
		BANK STABILIZATION						< 0.01		10		
9	-L- 336+79 - 336+94 (LT)	6" PVC						< 0.01	< 0.01	31	28	
10	-L- 346+17 - 346+42 (RT)	36" RCP						< 0.01	< 0.01	14	21	
11	-L- 348+30 - 349+08 (LT)	36" RCP						< 0.01	< 0.01	45	23	
		BANK STABILIZATION						< 0.01		12		
12	-L- 350+35 - 351+29 (LT)	DITCH / ROAD FILL						< 0.01	< 0.01	78	20	
13A	-L- 351+21 - 352+70	84" SPP / WSP						0.04	< 0.01	270	23	
13B	-L- 352+15 (RT)	CHANNEL CHANGE						< 0.01		48		
14	-L- 358+63 - 358+73 (LT)	BANK STABILIZATION						< 0.01	< 0.01	4	10	
14B	-L- 367+73 - 367+79	BANK STABILIZATION						< 0.01		13		
16	-L- 373+71 - 375+47	2 @ 15' x 11' RCBC						0.05		100		
16	-L- 372+94 - 375+80	CHANNEL CHANGE						0.06	0.04	156	84	
SHEET 1 TOTALS*:			0.16			0.03		0.25	0.08	1587	410	0

*Rounded totals are sum of actual impacts

NOTES:

(1) WETLAND TOTAL TAKES: SITE 1, 2A (2) SITE 15 REMOVED DURING Y8 REDESIGN.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
08/22/14 (REV. 07/21/16)
ASHE COUNTY
US 221 FROM NORTH OF SOUTH FORK
NEW RIVER TO SOUTH OF US 194
SHEET 42 OF 43

