



REPLY TO  
ATTENTION OF:

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

August 28, 2014

Regulatory Division

Action ID. SAW-1994-03552

Mr. Richard Hancock, P.E., Manager  
Project Development and Environmental Analysis Unit  
N.C. Department of Transportation  
1598 Mail Service Center  
Raleigh, NC 27699-1598

Dear Mr. Hancock:

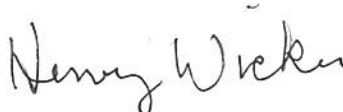
Reference the Department of the Army permit issued on January 13, 2011 and subsequent phased modification issued on July 9, 2013, to construct a fully controlled access freeway on new alignment from north of U 74/76 in Brunswick County to US 421 in New Hanover County (a distance of approximately 7.6 miles). Reference is also made to your permit modification requests dated March 19, 2014 and August 1, 2014. The modification requests address both a change in construction technique and mapping errors recently identified. The permit drawing sheets covered by this modification are R 2633-B sheets 21 and 22 of 73 dated March 6, 2014, sheets 2, 3 and 73 of 73 dated July 15, 2014 and utility sheet 3 and 15 of 15 dated 4/22/2014. For R 2633 AA&AB sheets 7, 8, 90-95 of 108 dated July 15, 2014 are the sheets of record.

We have determined that the proposed change is minor, and that a supplemental public notice is not necessary. Your permit is hereby modified to include the aforementioned changes as described in the two modification requests. It is understood that all other conditions of the original permit and previous modifications remain applicable, including the permit expiration date of December 31, 2016.

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 modification authorization.

This modification approval and referenced plans will be utilized for future compliance of the project. If you have questions, please contact Brad Shaver of the Wilmington Regulatory Field Office, at telephone (910) 251-4611.

Sincerely,

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

Copies Furnished: (electronic)

Mr. Stoney Mathis, NCDOT  
Ms. Rachelle Beauregard, NCDOT  
Mr. Mason Herndon, NCDENR-DWR  
Mr. Stephen Lane, NCDENR-DCM  
Mr. Steve Sollod, NCDENR-DCM

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

Permittee: North Carolina Department of Transportation  
 Project Name: R-2633 A and B Wilmington Bypass

Action ID: SAW-1994-03552  
 County: Brunswick

**Instructions to Permittee:** The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Ecosystem Enhancement Program (NCEEP), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that to the U.S. Army Corps of Engineers (USACE) Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate mitigation Sponsors.

**Instructions to Sponsor:** The Sponsor must verify that the mitigation requirements shown below are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether or not they have received payment from the Permittee. Once the form is signed, the Sponsor must update the appropriate ledger and provide a copy of the signed form to the Permittee and to the USACE Bank/In-Lieu Fee Program Manager. The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

**Permitted Impacts and Compensatory Mitigation Requirements:**

**Permitted Impacts Requiring Mitigation\***      **8-digit HUC and Basin: 03030005, Cape Fear River Basin**

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
509				7.28	56.14	

\*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: 03030005, Cape Fear River Basin**

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
1,018				14.56	112.28	

**Mitigation Site Debited:** NCEEP

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCEEP, list NCEEP. If the NCEEP acceptance letter identifies a specific site, also list the specific site to be debited).

*Section to be completed by the Mitigation Sponsor*

**Statement of Mitigation Liability Acceptance:** I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCEEP), as approved by the USACE, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

Mitigation Sponsor Name: NCEEP

Name of Sponsor's Authorized Representative: Beth Harmon

Beth Harmon      09/04/2014

Signature of Sponsor's Authorized Representative

Date of Signature

USACE Wilmington District  
Compensatory Mitigation Responsibility Transfer Form, Page 2

Conditions for Transfer of Compensatory Mitigation Credit:


- Once this document has been signed by the Mitigation Sponsor and the USACE is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the USACE is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. For authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by the Sponsor must be provided to the USACE within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the USACE has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the USACE Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the USACE, the Sponsor must obtain case-by-case approval from the USACE Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the USACE administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions:

This form is not valid unless signed by the mitigation Sponsor and USACE Project Manager. For questions regarding this form or any of the conditions of the permit authorization, contact the Project Manager at the address below.

USACE Project Manager: Brad Shaver  
USACE Field Office: Wilmington Regulatory Field Office  
US Army Corps of Engineers  
69 Darlington Avenue  
Wilmington, NC 28403

Email:



USACE Project Manager Signature

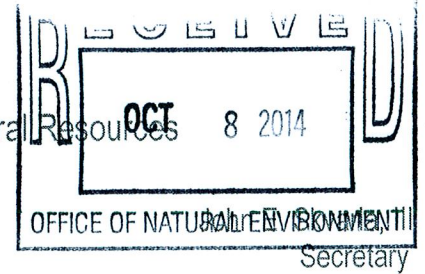
August 28, 2014

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://rbits.usace.army.mil>.



North Carolina Department of Environment and Natural Resources  
Division of Coastal Management



Pat McCrory  
Governor

Braxton C. Davis  
Director

October 3, 2014

Richard W. Hancock, PE  
Manager  
Project Development and Environmental Analysis Branch  
NC Department of Transportation  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548

Dear Mr. Hancock:

The enclosed permit constitutes authorization under the Coastal Area Management Act, and where applicable, the State Dredge and Fill Law, for you to proceed with your project proposal. The original (buff-colored form) is retained by you and it must be available on site when the project is inspected for compliance. Please sign both the original and the copy and return the copy to this office in the enclosed envelope. Signing the permit and proceeding means you have waived your right of appeal described below.

If you object to the permit or any of the conditions, you may request a hearing pursuant to NCGS 113A-121.1 or 113-229. Your petition for a hearing must be filed in accordance with NCGS Chapter 150B with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27611-6714, (919) 733-2698 within twenty (20) days of this decision on your permit. The Coastal Resources Commission makes the final decision on any appeal.

The project plan is subject to those conditions appearing on the permit form. Otherwise, all work must be carried out in accordance with your application. Modifications, time extensions, and future maintenance require additional approval. Please read your permit carefully prior to starting work and review all project plans, as approved. If you are having the work done by a contractor, it would be to your benefit to be sure that he fully understands all permit requirements.

From time to time, Department personnel will visit the project site. To facilitate this review, we request that you complete and mail the enclosed Notice Card just prior to work initiation. However, if questions arise concerning permit conditions, environmental safeguards, or problem areas, you may contact Department personnel at any time for assistance. By working in accordance with the permit, you will be helping to protect our vitally important coastal resources.

Sincerely,

Douglas V. Huggett  
Major Permits and Consistency Manager

Enclosure

### ADDITIONAL CONDITIONS

- 2) Unless specifically altered herein, this minor modification authorizes the following activities:
  - a. The change in bridge design at the railroad line as shown on permit drawing sheet numbers 21 of 73 and 22 of 73, both dated revised 3/6/14. An additional 0.02 acre of impacts to non-coastal 404 wetlands are due to bridge redesign.
  - b. Additional 0.06 acre of impacts to non-coastal 404 wetlands at Wetland Site No. 3 due to a discrepancy as a result of a gap in coverage between Section A and Section B permit drawings.
  - c. An overall 0.32 acre decrease of hand clearing impacts to non-coastal 404 wetlands located at utility Site No. 2.
  - d. Construction of a 30'X50' elevated work platform.
- 3) This minor modification shall be attached to the original of Permit #76-13, as well as all subsequent modifications and all documents must be readily available on site when a Division representative inspects the project for compliance.
- 4) All conditions and stipulations of the active permit remain in force under this minor modification unless specifically altered herein.

**NOTE:** The "A" Section of the Wilmington Bypass (R-2633A) was authorized under Federal Consistency concurrence due to the absence of a CAMA Area of Environmental Concern. Small changes in wetland impacts are proposed in Section R-2633A (located at Wetland Impact Site No. 31 and Site No. 32), as described in your modification request letter, dated 8/1/14. In accordance with the provisions of Federal Consistency under 15 CFR § 930.46, Supplemental Coordination for Proposed Activities, the preparation of a supplemental consistency determination is required only if the proposed activity will affect any coastal use or resource substantially different than originally described. The new information or changes in the proposed activity, in this case, would not be considered substantially different in coastal effects than the activity originally described in your Federal Consistency Certification, dated 10/15/10, which received concurrence from DCM on 1/14/11. Therefore, the proposed change in wetland impacts located within Section R-2633A that are due to drawing inconsistencies would still be considered consistent with North Carolina's coastal management program and the preparation of a supplemental consistency certification will not be necessary.

**NOTE:** This permit does not eliminate the need to obtain any additional permits, approvals or authorizations that may be required.

Permit Class  
**MODIFICATION/MINOR**

Permit Number  
**76-13**

**STATE OF NORTH CAROLINA**  
Department of Environment and Natural Resources  
and  
Coastal Resources Commission

# Permit

for

Major Development in an Area of Environmental Concern  
pursuant to NCGS 113A-118

Excavation and/or filling pursuant to NCGS 113-229

Issued to **N.C. Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1548**

Authorizing development in Brunswick and New Hanover County at a new crossing of the Cape Fear River and Toomers Creek (US17 Wilmington Bypass) R-2633B, as requested in the permittee's application letters dated 3/19/14, 8/1/14, and 9/30/14, including the attached drawings as referenced in Condition No. 1 of this permit.

This permit, issued on 10/03/14, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

### Redesign of Bridge over Railroad Line and Proposed Elevated Storage Area

1) Unless specifically altered herein, all work authorized by this minor modification shall be carried out in accordance with the following six (6) workplan drawings:

1/2 size drawings: Two (2) drawings dated revised on 3/6/14, one (1) drawing dated revised on 4/22/14, Two (2) drawings dated revised on 7/15/14, and one (1) drawing dated revised on 9/30/14.

**(See attached sheet for Additional Conditions)**

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

**No Expiration Date, pursuant to GS 136-44.7B**

In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DENR and the Chairman of the Coastal Resources Commission.



for

Braxton C. Davis, Director  
Division of Coastal Management

This permit and its conditions are hereby accepted.



RICHARD W. Hancock

Signature of Permittee



North Carolina Department of Environment and Natural Resources

Pat McCrory  
Governor

John E. Skvarla, III  
Secretary

August 15, 2014

Mr. Richard W. Hancock, P.E., Manager  
Project Development and Environmental Analysis  
North Carolina Department of Transportation  
1598 Mail Service Center  
Raleigh, North Carolina, 27699-1598

Subject: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000 with ADDITIONAL CONDITIONS for proposed construction of the Wilmington Bypass from US 17 in Brunswick County, north of the NC 87 intersection, to US 421 in New Hanover County. Federal Aid Project Nos. NHF-0017(96) and STM-0017(97), State Project Nos. 34491.1.3.GV2 and 34497.3.ST1, Brunswick and New Hanover Counties, TIP R-2633AA/AB and R-2633B.


NCDWR Project No. 20100867 v. 7

Dear Mr. Hancock:

Attached hereto is a modification of Certification No. 3842 issued to The North Carolina Department of Transportation (NCDOT) dated January 13, 2011 and modifications dated May 9, 2011; April 5, 2012; May 31, 2013; August 19, 2013 and March 26, 2014.

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

Sincerely,



Thomas A. Reeder

Attachments

cc: Brad Shaver, US Army Corps of Engineers, Wilmington Field Office (electronic copy only)  
Stoney Mathis, Division 3 Environmental Officer (electronic copy only)  
Cynthia Van Der Wiele, Environmental Protection Agency (electronic copy only)  
Gary Jordan, US Fish and Wildlife Service (electronic copy only)  
Travis Wilson, NC Wildlife Resources Commission (electronic copy only)  
Rachelle Beauregard, NCDOT, Natural Environment Section (electronic copy only)  
Jason Elliot, NCDOT, Natural Environment Section (electronic copy only)  
Steve Sollod, NC Coastal Management (electronic copy only)  
Sonia Carrillo, NCDWQ Central Office  
File Copy

Transportation and Permitting Unit  
1650 Mail Service Center, Raleigh, North Carolina 27699-1650  
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604  
Phone: 919-807-6300 \ FAX: 919-733-1290  
Internet: [www.ncwaterquality.org](http://www.ncwaterquality.org)

An Equal Opportunity \ Affirmative Action Employer

One  
North Carolina  
*Naturally*



**Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000 with ADDITIONAL CONDITIONS**

**THIS CERTIFICATION** is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500 and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000. This certification authorizes the NCDOT to permanently impact an additional 0.09 acres of jurisdictional wetlands in Brunswick County. The project shall be constructed pursuant to the modification dated received August 1, 2014 and corrections noted in the e-mail chain received August 14, 2014. The authorized impacts are as described below:

**Wetland Impacts in the Cape Fear River Basin (non-riparian)**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (temporary) (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)	Additional Impacts Requiring Mitigation (ac)
<b>R-2633A</b>							
Original approved impacts at Site 31 (Sta. 5+29 to 7+09 -LPA1 )	0.53	0	0	0.06	0	0.59	
Revised impacts with this approval at Site 31 (Sta. 5+29 to 7+09 -LPA1)	0.55	0	0	0.06	0	0.61	0.02
Original approved impacts at Site 32 (Sta. 0+00 to 12+98 -LPD1 )	4.27	0	0.07	0.30	0	4.64	
Revised impacts with this approval at Site 32 (Sta. 0+00 to 12+98 -LPD1 )	4.29	0	0.07	0.29	0	4.65	0.01
<b>R-2633B</b>							
Original approved impacts at Site 3 (Sta. 339+7 to 358+92 -LREV-)	7.45	0	0.03	0	0.58	8.06	
Revised impacts with this approval at Site 3 (Sta. 339+7 to 358+92 -LREV-)	7.51	0	0.03	0	0.58	8.12	0.06
Original approved impacts at Site UT2 (Sta. 138+96 to 142+92 -L-)	0	0	0	0	0.83	0.83	0
Revised impacts with this approval at Site UT2 (Sta. 140+00 to 141+23 -L-)	0	0	0	0	0.22	0.22	0
Original approved impacts at Site UT2 (Sta. 140+62 to 147+63 -L-)	0	0	0	0	0.48	0.48	0
Revised impacts with this approval at Site UT2 (Sta. 142+78 to 147+63 -L-)	0	0	0	0	0.77	0.77	0
<b>REVISED TOTALS for SITES 31, 32, 3 &amp; UT2*</b>	<b>12.35</b>	<b>0</b>	<b>0.1</b>	<b>0.35</b>	<b>1.57</b>	<b>14.37</b>	<b>0.09</b>

**Total Revised Wetland Impact for (R-2633 Sites 31, 32, 3 & UT2): 14.37 acres.**

\*other impacts are authorized by prior certification(s) at different stations within Site UT2 that did not require modification.

The application provides adequate assurance that the discharge of fill material into the waters of the Cape Fear 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 March 19, 2014. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated January 13, 2011 and modifications dated May 9, 2011; April 5, 2012; May 31, 2013; August 19, 2013 and March 26, 2014 still apply except where superceded by this certification. 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 revised proposed activities as described in your application dated August 1, 2013. All of the authorized activities and conditions of certification associated with the original Water Quality Certification dated January 13, 2011 and subsequent modifications dated May 9, 2011; April 5, 2012; May 31, 2013; August 19, 2013 and March 26, 2014 still apply except where superceded by this certification.
2. Compensatory mitigation for the additional permanent impacts to 0.09 acres of non-riparian wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated March 19, 2014 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with EEP's 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:

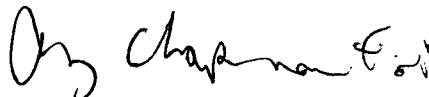
Office of Administrative Hearings  
6714 Mail Service Center  
Raleigh, NC 27699-6714  
Telephone: (919)-431-3000, Facsimile: (919)-431-3100

A copy of the petition must also be served on DENR as follows:

Mr. Lacy Presnell, General Counsel  
Department of Environment and Natural Resources  
1601 Mail Service Center

This the 15th day of August 2014

DIVISION OF WATER RESOURCES



Thomas A Reeder, Director  
Division of Water Resources



North Carolina Department of Environment and Natural Resources

Pat McCrory  
Governor

John E. Skvarla, III  
Secretary

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, 1650 Mail Service Center, Raleigh, NC, 27699-1650. 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.

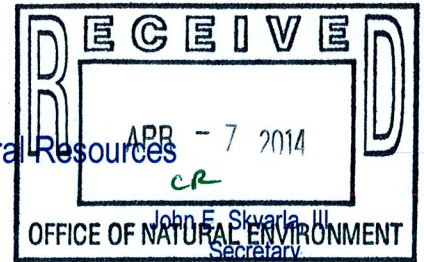
Signature \_\_\_\_\_ Registration No. \_\_\_\_\_ Date \_\_\_\_\_

Transportation and Permitting Unit  
1650 Mail Service Center, Raleigh, North Carolina 27699-1650  
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604  
Phone: 919-807-6300 \ FAX: 919-733-1290  
Internet: [www.ncwaterquality.org](http://www.ncwaterquality.org)





North Carolina Department of Environment and Natural Resources



Pat McCrory  
Governor

March 26, 2014

Mr. Richard W. Hancock, P.E., Manager  
Project Development and Environmental Analysis  
North Carolina Department of Transportation  
1598 Mail Service Center  
Raleigh, North Carolina, 27699-1598

Subject: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000 with ADDITIONAL CONDITIONS for Proposed improvements for Proposed improvements to the Wilmington Bypass from US 17 in Brunswick County, north of the NC 87 intersection, to US 421 in New Hanover County. Federal Aid Project Nos. NHF-0017(96) and STM-0017(97), State Project Nos. 34491.1.3.GV2 and 34497.3.ST1, Brunswick and New Hanover Counties, TIP R-2633AA/AB and R-2633B.

NCDWR Project No. 20100867 v. 6

Dear Mr. Hancock:

Attached hereto is a modification of Certification No. 3842 issued to The North Carolina Department of Transportation (NCDOT) dated January 13, 2011 and modifications dated May 9, 2011; April 5, 2012; May 31, 2013 and August 19, 2013

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

Sincerely,

Thomas A. Reeder

Attachments

cc: Brad Shaver, US Army Corps of Engineers, Wilmington Field Office (electronic copy only)  
Stoney Mathis, Division 3 Environmental Officer  
Chris Militscher, Environmental Protection Agency (electronic copy only)  
Gary Jordan, US Fish and Wildlife Service (electronic copy only)  
Travis Wilson, NC Wildlife Resources Commission (electronic copy only)  
Rachelle Beauregard, NCDOT, Natural Environment Section (electronic copy only)  
Jason Elliot, NCDOT, Natural Environment Section (electronic copy only)  
Steve Sollod, NC Coastal Management (electronic copy only)  
Sonia Carrillo, NCDWQ Central Office  
File Copy

Transportation and Permitting Unit  
1650 Mail Service Center, Raleigh, North Carolina 27699-1650  
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604  
Phone: 919-807-6300 \ FAX: 919-733-1290  
Internet: [www.ncwaterquality.org](http://www.ncwaterquality.org)

An Equal Opportunity \ Affirmative Action Employer

One  
North Carolina  
*Naturally*

**Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000 with ADDITIONAL CONDITIONS**

**THIS CERTIFICATION** is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500 and ISOLATED WETLANDS PERMIT Pursuant to IWGP100000. This certification authorizes the NCDOT to permanently impact an additional 0.02 acres of jurisdictional wetlands in Brunswick County. The project shall be constructed pursuant to the modification dated received March 19, 2014. The authorized impacts are as described below:

**Wetland Impacts in the Cape Fear River Basin (non-riparian)**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (temporary) (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)
Original approved impacts at Site 7 (Sta. -L- 146+78 to 165+66 )	10.55	0	0	0	0.98	11.53
New impacts with this approval at Site 7 (Sta. -L- 146+78 to 165+66 )	0.02	0	0	0	- 0.14	- 0.12
<b>Total</b>	<b>10.57</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.84</b>	<b>11.41</b>

**Total Revised Wetland Impact for (R-2633B Site 7): 11.41 acres.**

The application provides adequate assurance that the discharge of fill material into the waters of the Cape Fear 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 March 19, 2014. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated January 13, 2011 and modifications dated May 9, 2011; April 5, 2012; May 31, 2013 and August 19, 2013 still apply except where superceded by this certification. 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 January 13, 2011 and subsequent modifications dated May 9, 2011; April 5, 2012; May 31, 2013 and August 19, 2013 still apply except where superceded by this certification.
2. Compensatory mitigation for the additional permanent impacts to 0.02 acres of non-riparian wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated March 19, 2014 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with EEP's 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 DENR as follows:

Mr. Lacy Presnell, General Counsel  
Department of Environment and Natural Resources  
1601 Mail Service Center

This the 26th day of March 2014

DIVISION OF WATER RESOURCES



Thomas A Reeder, Director  
Division of Water Resources

WQC No. 3842



North Carolina Department of Environment and Natural Resources

Pat McCrory  
Governor

John E. Skvarla, III  
Secretary

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, 1650 Mail Service Center, Raleigh, NC, 27699-1650. 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 \_\_\_\_\_

Transportation and Permitting Unit  
1650 Mail Service Center, Raleigh, North Carolina 27699-1650  
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604  
Phone: 919-807-6300 \ FAX: 919-733-1290  
Internet: [www.ncwaterquality.org](http://www.ncwaterquality.org)



Mr. Hancock  
TIP R-2633A and B Additional  
March 19, 2014  
Page Two

**Table 2 – Current Permitted Impacts and Mitigation Requirements (based on 2011 permits) and Revised Anticipated Impacts (based on May 2013 mitigation request)**


Impact Type	Total Permitted Impacts (feet / acre)	Mitigation Provided by EEP per Issued Permits (Credits)	Additional Impact (for approval)	Revised Total Impacts*
Stream	509.0	1,018.0	0	509.0
Riparian Wetland	7.28	14.56	0	7.28
Non-Rip Wetland	56.25	112.50	0.02	56.27

\*Some of the stream and wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details. EEP will provide the amount of mitigation as determined by the regulatory agencies.

**This mitigation acceptance letter replaces the mitigation acceptance letters issued on October 20, 2009, October 12, 2010, January 21, 2011, April 23, 2013, and May 30, 2013.** EEP has previously made debits for the stream and wetland mitigation requirements to mitigation sites available in the cataloging unit based on the amounts required in the 404 and 401 permits issued in 2011 and 2013 and CAMA Major permit issued in 2013. Upon issuance of the permit modifications for the project, EEP will make appropriate adjustments to the existing mitigation debits. At this time, no additional stream or riparian wetland mitigation is anticipated to be needed.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-707-8420.

Sincerely,

  
James B. Stanfill  
EEP Asset Management Supervisor

Cc: Mr. Brad Shaver, USACE – Wilmington Regulatory Field Office  
Mr. Mason Herndon, NC Division of Water Quality  
Mr. Steve Sollod, NC Division of Coastal Management  
File: R-2633A and B Revised 3

*Restoring... Enhancing... Protecting Our State*





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

PROJECT REFERENCE NO. R-2633B	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

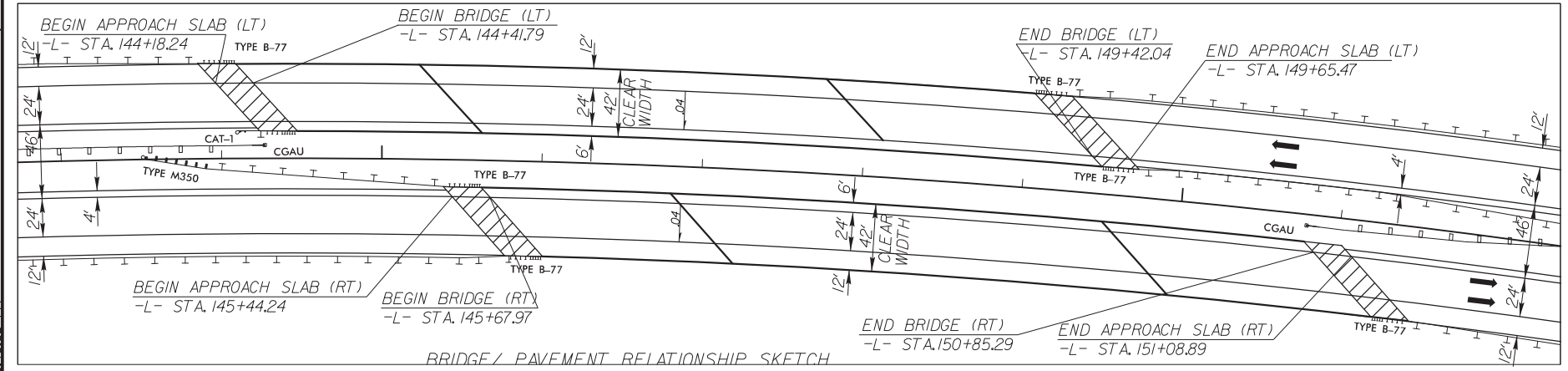
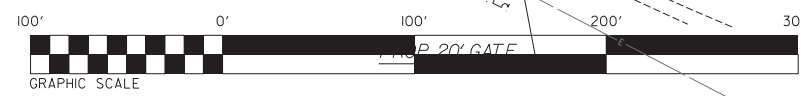
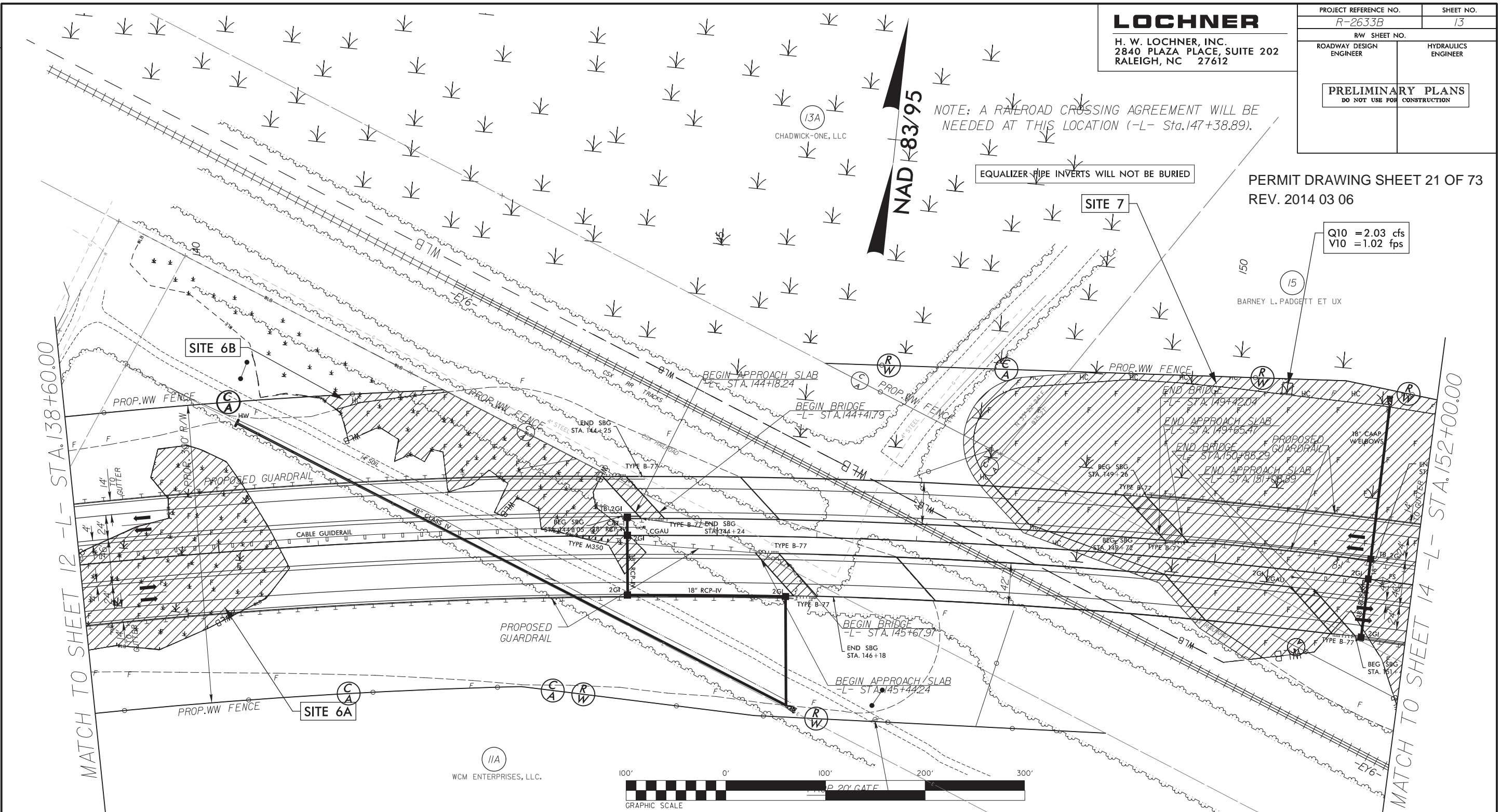
NOTE: A RAILROAD CROSSING AGREEMENT WILL BE NEEDED AT THIS LOCATION (-L- Sta.147+38.89).

PERMIT DRAWING SHEET 21 OF 73  
 REV. 2014 03 06

Q10 = 2.03 cfs  
 V10 = 1.02 fps

REVISIONS  
 10/ /09 - CHANGED PARCEL #1 TO IIA, COMBINED PARCEL 13 AND 14 AND ELIMINATED 14, CORRECTED PROPERTY LINES AND RAILROAD R/W LINE ON PARCEL 15.  
 1/ /11 - CHANGED PARCEL #13 TO 13A, ADDED CA AND FENCE TO RAILROAD R/W, CHANGED STATION ON MONUMENT TO 142+31.9 LT.

3/5/2014  
 R:\Users\psh13\Documents\Permit\Stream & Wetland\R-2633B-hyd\_prm-wet\_psh13.dgn



DENOTES FILL IN WETLAND  
 DENOTES HAND CLEARING

SEE SHEET 46 FOR -L- PROFILE

# LOCHNER

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

PROJECT REFERENCE NO. R-2633B	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING SHEET 22 OF 73  
REV. 2014 03 06

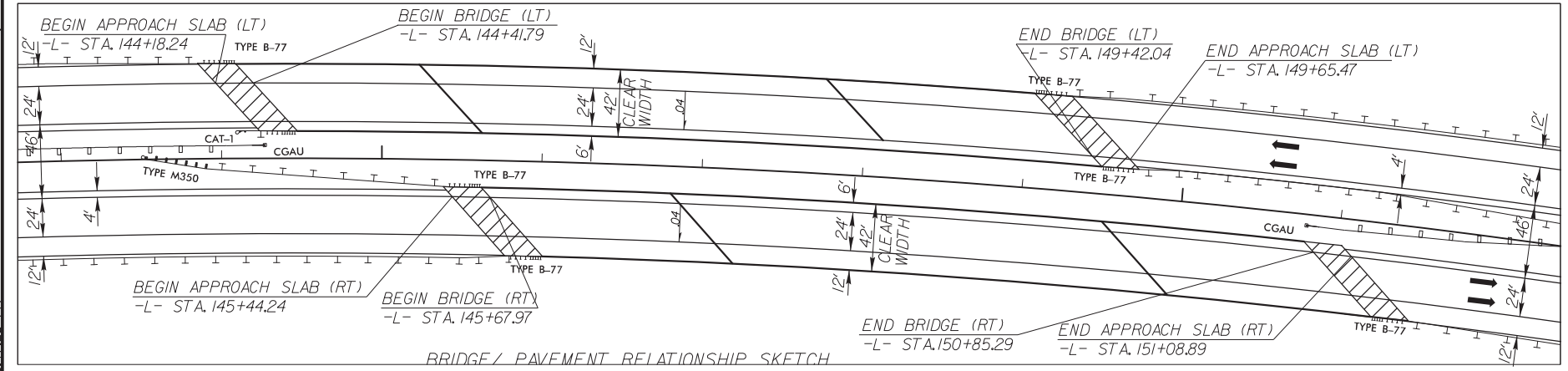
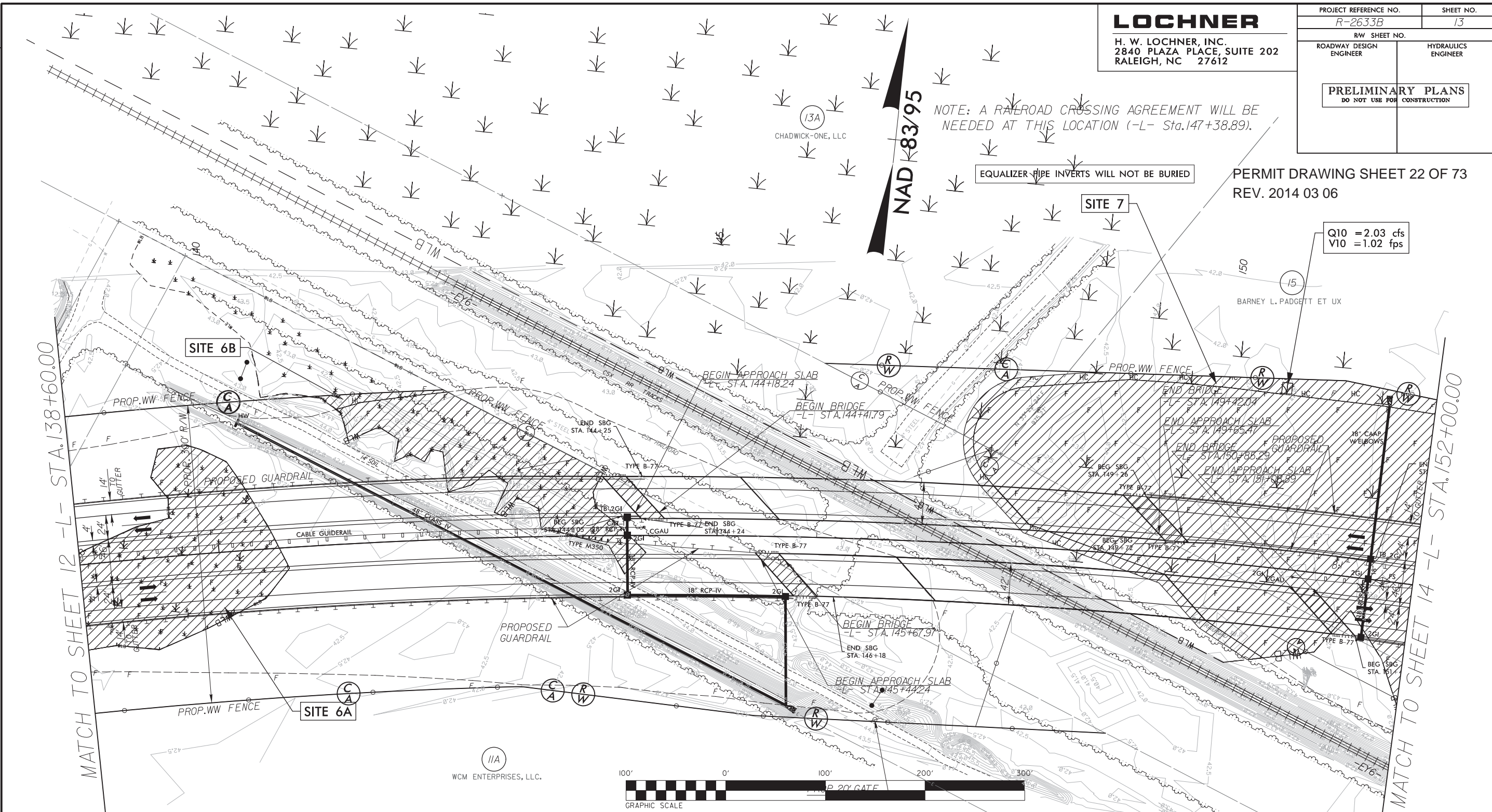
NOTE: A RAILROAD CROSSING AGREEMENT WILL BE NEEDED AT THIS LOCATION (-L- Sta.147+38.89).

EQUALIZER PIPE INVERTS WILL NOT BE BURIED

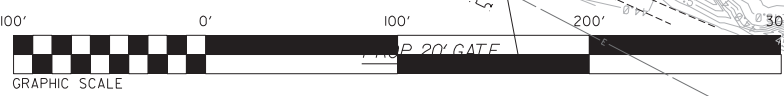
Q10 = 2.03 cfs  
V10 = 1.02 fps

NAD 83/95

10/ /09 - CHANGED PARCEL #11 TO 11A. COMBINED PARCEL 13 AND 14 AND ELIMINATED 14. CORRECTED PROPERTY LINES AND RAILROAD R/W LINE ON PARCEL 15.  
 1/ /11 - CHANGED PARCEL #13 TO 13A. ADDED CA AND FENCE TO RAILROAD R/W. CHANGED STATION ON MONUMENT TO 142+319.17.



DENOTES FILL IN WETLAND  
 DENOTES HAND CLEARING



3/5/2014  
R:\projects\Permit\Stream & Wetland\R-2633B-hyd\_prm-wet\_psh13.dgn

SEE SHEET 46 FOR -L- PROFILE

**WETLAND PERMIT IMPACT SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS							SURFACE WATER IMPACTS				
			404 Permanent Fill In Wetlands (ac)	CAMA Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	404 Hand Clearing in Wetlands (ac)	CAMA Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1***	-L- 24+75 Lt.	Roadway Fill												
2***	-L- 37+96 Rt.	Bridge												
3****	-LREV- 339+73 to 358+92	Roadway Fill	7.45			0.03			0.58					
4	-RP_D1- 22+60	Deleted due to new JS delineation												
5*	-LREV- 372+74 to -L-85+08	Roadway Fill	1.04						0.12					
6*	-L- 109+28 to 134+54	Roadway Fill	9.72						1.13					
6A**	-L- 138+11 to 140+70	Roadway Fill	0.68											
6B**	-L- 141+20 to 144+29	Roadway Fill	0.41						0.02					
7*	-L- 146+78 to 165+66	Roadway Fill	10.57						0.84					
8	-L 166+60	Deleted due to new JS delineation												
9*	-L- 186+97 to 191+88	Roadway Fill	1.04						0.09					
10	-RP_D2- 19+20 Lt.	Deleted due to new JS delineation												
11*	-L- 194+75 to 216+13	Roadway Fill; 3@42"	8.72						0.93	0.07	<0.01	205	20	
12	-L- 230+39 to 242+11	Deleted due to new JS delineation												
13	-L- 256+36 to 265+87	Deleted due to new JS delineation												
14*	-L- 264+32 to 266+94	Bridge					0.03	0.20		<0.01				
		Temp. Work Bridge						0.10						
15*	319+46 to 387+92	Bridge	0.05			*****0.93		10.48	7.79	0.13	0.03			
		Temp. Work Bridge						6.43	4.70					
16*	-L- 399+43 to 400+51	Roadway Fill	0.22											
17***	-Y5-16+25 Rt	48" RCP												
18***	-Y5-16+25 Lt	48" RCP												
19*	-Y7- 52+09	Culvert								<0.01	<0.01	5	39	
	-Y7 DET- 16+45	Detour Culvert			0.06			0.03			0.61		90	
20*	-Y8- 47+74 to 49+88	Bridge	<0.01				0.04	0.17						
	-Y8- 48+78 to 49+95	Temp. Work Bridge						0.14						
<b>TOTALS:</b>			<b>39.91</b>		<b>0.06</b>	<b>0.96</b>	<b>0.07</b>	<b>21.26</b>	<b>12.49</b>	<b>0.20</b>	<b>0.63</b>	<b>210</b>	<b>149</b>	<b>0.00</b>

Site 14 See Structures sheet for Bridge Impacts on Cartwheel Branch  
 Site 15 Impacts for Permanent Dual Bridges CAMA=0.07 Ac, 404=0.07 Ac, Surface Water=0.0 1Ac; Total=0.15 Ac.  
 Site 15 Impacts for Temporary Work Bridge CAMA=0.16 Ac, 404=0.21 Ac, Surface Water=0.0 1 Ac; Total=0.38 Ac.  
 \* Revised due to new JS Delineation  
 \*\* New Site due to new JS Delineation  
 \*\*\* Sites 1, 2, 17, and 18 are now permitted with R-2633AA & AB and the impacts are included with that project.  
 \*\*\*\* A portion of Site 3 is now permitted with R-2633AA & AB and the impacts are included with that project.  
 \*\*\*\*\* Temporary Excavation. CAMA=0.41Ac, 404 =0.52 Ac.; Total=0.91 Ac.  
 0.75 acres of Temp. Fill in 404 Wetlands in the Hand Clearing areas for Erosion Control Measures

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 BRUNSWICK AND NEW HANOVER COUNTIES  
 WBS - 34491.1.2 (R-2633B)  
 SHEET 73 of 73 revised 3/6/2014

**WETLAND PERMIT IMPACT SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS					
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)	
1	54+00 -Y1-	Triple 72" RCP	0.14		0.03	0.03			0.11		248		
1 & 33	54+00 -Y1-/24+00 -Y04-	Wetland Mitigation											66
2	77+70 -Y1-	24" RCP	0.17			0.01							
*3**	58+30 -SR2- RT	Waterline/Powerline		0.03				0.02		<0.01		30	
*4**	101+46 -Y1-	Triple 72" RCP	0.31	0.40	0.09	0.09	0.27	0.07			151		
5**	115+18 -Y1-	Triple 72" RCP	0.03		0.11	0.03	0.07	0.10			228		
6	103+61 -SRVD2-	24" RCP	0.13			<0.01							
7	60+15 -NBL- RT	Bank Stabilization							<0.01		16		
7	60+15 -NBL-M	Temp. Crossing							<0.01			70	
8	98+00 -L- LT	Temp. Crossing							<0.01			45	
8	97+27 / 98+26 -L-	Bridge	<0.01				0.12						
8	97+27 / 98+26 -L-	Bank Stabilization						<0.01			40		
9	110+00 -L-	24" RCP	0.23			0.01							
10A	113+92 -L- LT	30" RCP	<0.01			<0.01							
10B	113+92 -L- RT	30" RCP	<0.01			<0.01							
11	120+66 -L-	30" RCP	0.11			0.01							
12	124+84 / 127+20-L-	42" RCP	1.00			0.05							
13	129+52 / 132+63 -L-	24" RCP	0.49			0.02							
14	134+27 / 138+13 -L-	36" RCP	0.73			0.03							
14	134+27 / 138+13 -L-	Bank Stabilization							<0.01		12		
15	140+25 -L-	18" RCP	0.33		0.04	0.01							
16	142+50 -L-	Roadway Fill	0.37			0.02							
17	143+81 -L-	Bridge	0.10			0.01	0.39						
18	164+50 -L- LT	Roadway Fill	0.02			0.01							
19	171+75 -L- RT	Roadway Fill	0.03			0.01							
20	173+59 -L- LT	24" RCP			<0.01	<0.01							
21	181+45 -L-	36" RCP	0.27			0.02							
<b>TOTALS:</b>			4.46	0.43	0.27	0.34	0.87	0.27	<0.01	695	145	66	

- Wetland Mitigation includes 0.63 acres of restoration and 2.97 acres of preservation

\* Contains impacts due to 30" waterline relocation

\*\* Hand clearing impacts due to powerline.

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY  
34491.3.GV2 (R-2633AA&AB)

**WETLAND PERMIT IMPACT SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
22	184+08 / 186+27 -L-	Bridge	0.09			0.02	0.17					
22	184+08 / 186+27 -L-	Temp. Crossing		0.10								
23	206+83 / 209+84 -L-	Roadway Fill	0.54			0.03						
24	265+81 / 274+26 -L-	Roadway Fill	3.27	0.02		0.18	0.12					
25	275+89 / 279+03 -L-	Roadway Fill	0.61			0.04						
26	283+43 -L-	36" RCP						0.01		***		
27	280+70 / 293+82 -L-	Roadway Fill	4.56			0.25						
28	304+55 / 316+77 -L-	Roadway Fill	3.52			0.24		0.02		***		
29	329+70 -L-	Bridge	<0.01				0.15					
30	21+97 / 23+48 -RPA1-	Roadway Fill	0.40			0.04						
31	5+29 / 7+09 -LPA1-	Roadway Fill	0.55			0.06						
32	0+00 / 12+98 -LPD1-	Roadway Fill	4.29		0.07	0.29						
33	18+96 / 25+57 -Y04-	Bridge	0.12			0.03	0.39					
34	19+26 / 20+50 -Y5-	Roadway Fill	0.02			0.01						
35**	22+50 -RP_D1-	Roadway Fill	0.16			0.01						
	Campbell Pit Haul Rd	Bank Stabilization						<0.01		4		
<b>TOTALS:</b>			18.15	0.12	0.07	1.20	0.84	0.03	0.00	4	0	0
Totals: Sheet 1 and 2			22.61	0.56	0.34	1.54	1.70	0.30	<0.01	699	145	66

\*\*Site 35 total take includes an additional 0.02 AC of impacted area between -RP\_D1- and -L-.

\*\*\*Tributary waters of the US contain SW impacts but no channel impacts.

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY  
WBS - 34491.3.GV2 (R-2633AA&AB)



**REVISIONS**

W-1A (8/24/12): CURB AND GUTTER ELIMINATED FROM STA 20+00 TO 21+00 AT BRIDGE STRUCTURE NOS 2232, 2233, AND 2232 EMBANKMENT ADJUSTMENT ADDRESS FOR RETAINER TO WITH A-1233 PROJECT.





W-1B (8/24/12): CURB AND GUTTER ELIMINATED FROM STA 21+00 TO 22+00 AT BRIDGE STRUCTURE NOS 2234, 2235, AND 2234 EMBANKMENT ADJUSTMENT ADDRESS FOR RETAINER TO WITH A-1233 PROJECT.

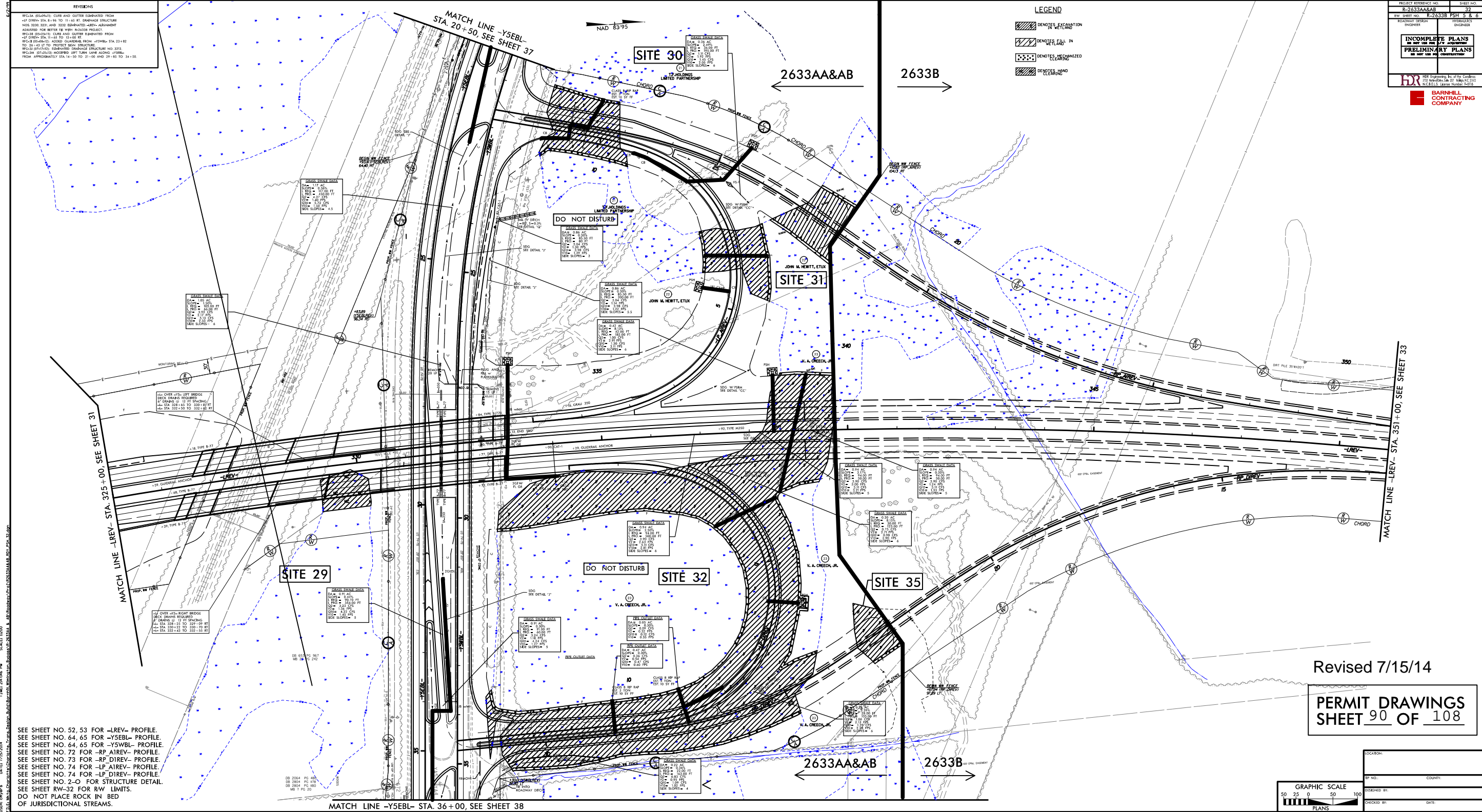
W-1C (8/24/12): ADDED GUARDRAIL FROM STA 23+00 TO 24+00 TO PROTECT BRIDGE STRUCTURE NOS 2236, 2237, AND 2236 EMBANKMENT ADJUSTMENT ADDRESS FOR RETAINER TO WITH A-1233 PROJECT.

W-1D (8/24/12): EMBANKMENT CHANGED FROM STA 24+00 TO 25+00 AND 25+00 TO 26+00 TO 27+00 TO 28+00 TO 29+00 TO 30+00 TO 31+00 AND 29+00 TO 30+00 TO 31+00.

PROJECT REFERENCE NO.	SHEET NO.
R-2633AA&AB	37
ROADWAY DESIGN	HYDROLOGIC ENGINEER
ENGINEER	ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR CONSTRUCTION	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
 	

**LEGEND**

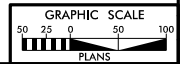
-  DENOTES EXCAVATION IN WETLAND
-  DENOTES FILL IN
-  DENOTES ORGANIZED
-  DENOTES MOUND OR CLEARING



SEE SHEET NO. 52, 53 FOR -LREV- PROFILE.  
 SEE SHEET NO. 64, 65 FOR -YSEBL- PROFILE.  
 SEE SHEET NO. 64, 65 FOR -YSWB- PROFILE.  
 SEE SHEET NO. 72 FOR -RP AIREV- PROFILE.  
 SEE SHEET NO. 73 FOR -RP DIREV- PROFILE.  
 SEE SHEET NO. 74 FOR -LP AIREV- PROFILE.  
 SEE SHEET NO. 74 FOR -LP DIREV- PROFILE.  
 SEE SHEET NO. 2-O FOR STRUCTURE DETAIL.  
 SEE SHEET RW-32 FOR RW LIMITS.  
 DO NOT PLACE ROCK IN BED OF JURISDICTIONAL STREAMS.

Revised 7/15/14

**PERMIT DRAWINGS**  
SHEET 90 OF 108



CHECKED BY:	DATE:
CHECKED BY:	DATE:

PLOT: D:\PLOT\2014\20140715\20140715\_2633AA&AB.dwg  
 USER: C:\Users\j\Documents\2014\20140715\20140715\_2633AA&AB.dwg  
 PLOT DATE: 7/15/14  
 PLOT TIME: 2:14 PM  
 SCALE: 1:1000  
 PLOTTER: HP DesignJet 5000 Series  
 PLOTTER MODEL: HP DesignJet 5000 Series  
 PLOTTER DRIVER: HP DesignJet 5000 Series

**REVISIONS**

W-1A (R-24-2): CURB AND GUTTER ELIMINATED FROM STA 20+00 TO 21+00 AT BRIDGE STRUCTURE NOS 2322, 2323, AND 2324. EMBANKMENT ADJUSTMENT ADDRESS FOR RETAINER IS WITH W-1A-23A PROJECT.

W-1B (R-24-2): CURB AND GUTTER ELIMINATED FROM STA 21+00 TO 22+00 AT

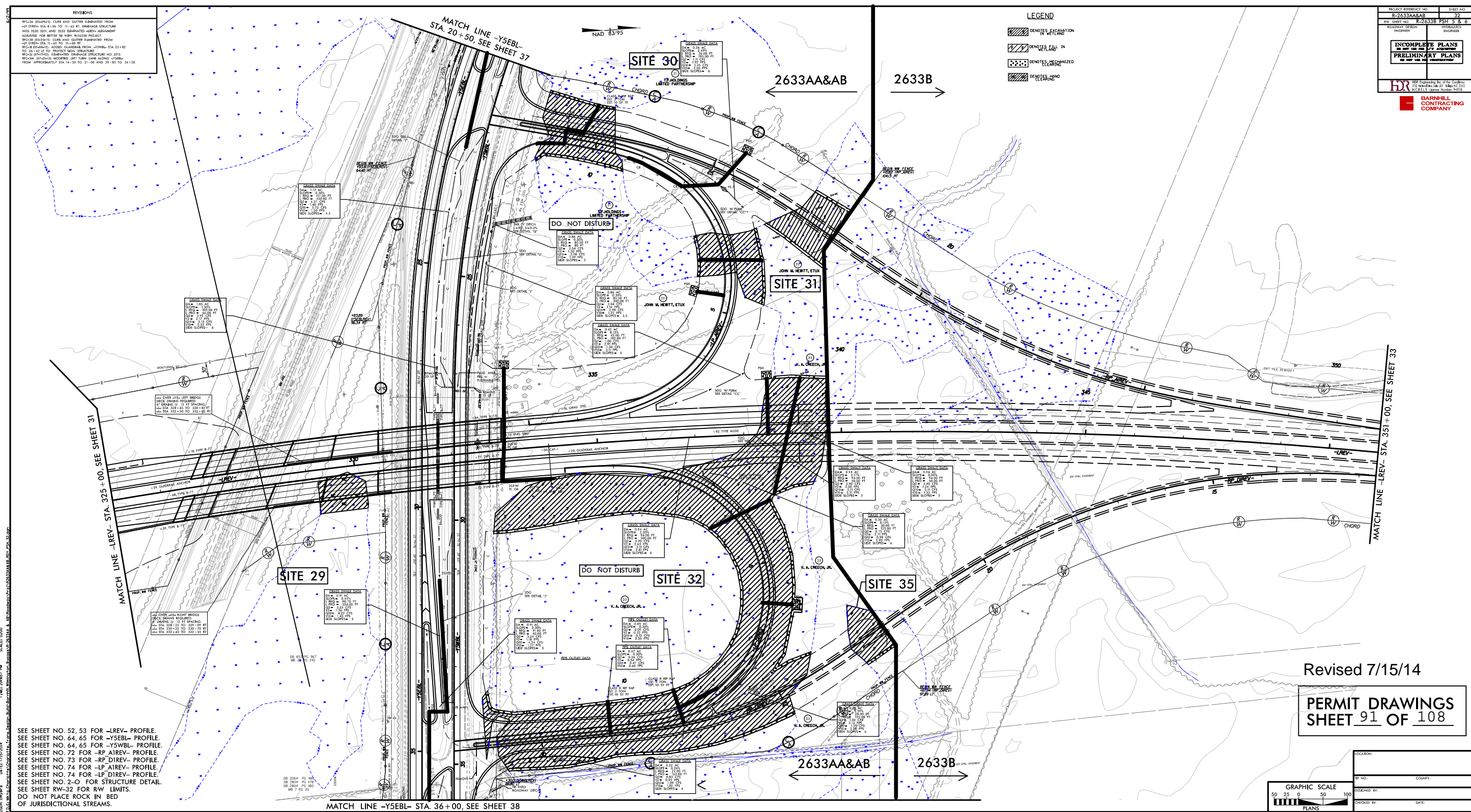
W-1C (R-24-2): ADDED GUARDRAIL FROM STA 23+00 TO 24+00 TO PROTECT BOX STRUCTURE.

W-1D (R-24-2): EMBANKMENT CHANGED STRUCTURE NO. 2322 FROM APPROXIMATELY STA 14+50 TO 21+00 AND 29+85 TO 34+50.

PROJECT REFERENCE NO.	SHEET NO.
R-2433AA&AB	32
RDW SHEET NO. R-2433B PSH 5 & 6	HYDROLOGIST
	ENGINEER
<b>INCOMPLETE PLANS</b>	
<b>PRELIMINARY PLANS</b>	
DO NOT USE FOR CONSTRUCTION	

**LEGEND**

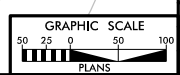
- DENOTES EXCAVATION IN WETLAND
- DENOTES FILL IN
- DENOTES ORGANIZED
- DENOTES MOUND OR CLEARING



SEE SHEET NO. 52, 53 FOR -LREV- PROFILE.  
 SEE SHEET NO. 64, 65 FOR -YSEBL- PROFILE.  
 SEE SHEET NO. 64, 65 FOR -YSWB- PROFILE.  
 SEE SHEET NO. 72 FOR -RP AIREV- PROFILE.  
 SEE SHEET NO. 73 FOR -RP DIREV- PROFILE.  
 SEE SHEET NO. 74 FOR -LP AIREV- PROFILE.  
 SEE SHEET NO. 74 FOR -LP DIREV- PROFILE.  
 SEE SHEET NO. 2-O FOR STRUCTURE DETAIL.  
 SEE SHEET RW-32 FOR RW LIMITS.  
 DO NOT PLACE ROCK IN BED OF JURISDICTIONAL STREAMS.

Revised 7/15/14

**PERMIT DRAWINGS**  
 SHEET 91 OF 108






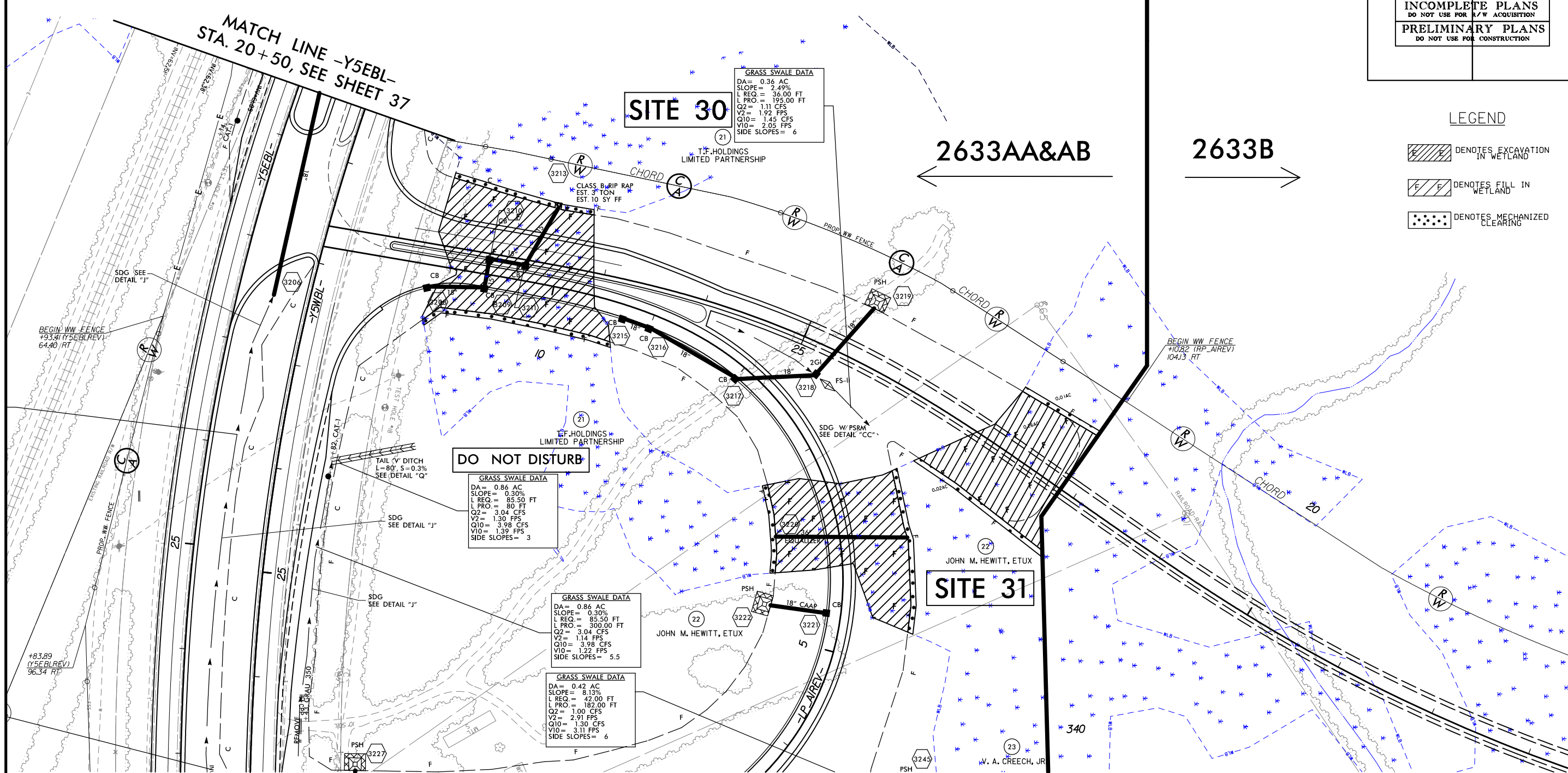
CHECKED BY:	DATE:
CHECKED BY:	DATE:

PLOT: D:\PLOT\2014\201407\20140701\20140701.dwg  
 USER: cnpmp  
 DATE: 7/15/14  
 SCALE: 1:1000  
 TIME: 7:00:00 PM  
 SCALE: 1:1000  
 FILE: D:\PLOT\2014\201407\20140701\20140701.dwg

PROJECT REFERENCE NO.	SHEET NO.
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR ACQUISITION	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

**LEGEND**

-  DENOTES EXCAVATION IN WETLAND
-  DENOTES FILL IN WETLAND
-  DENOTES MECHANIZED CLEARING



Revised 7/15/14

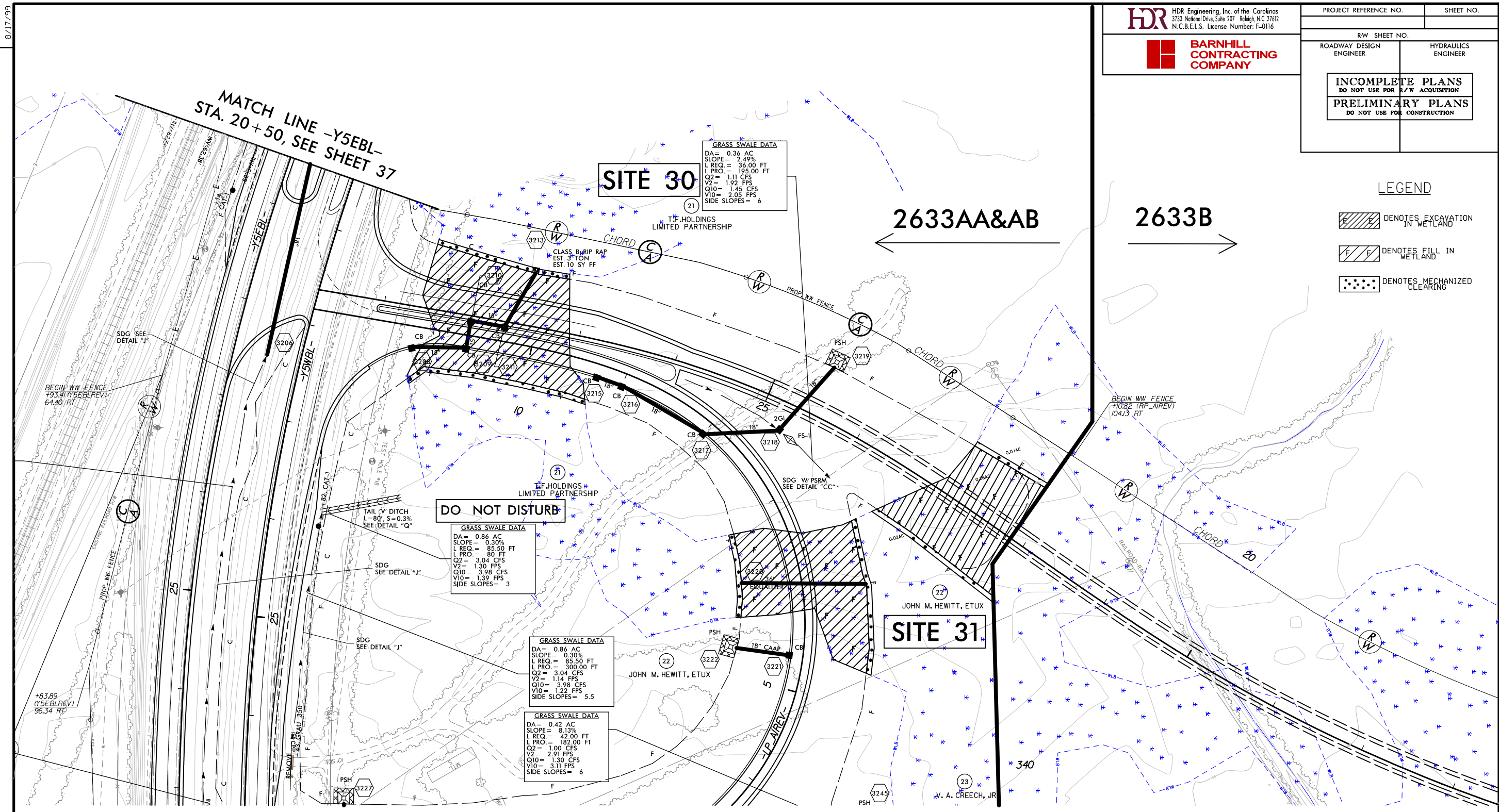
**PERMIT DRAWINGS**  
 SHEET 92 OF 108



PROJECT REFERENCE NO.	SHEET NO.
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	


**LEGEND**

- DENOTES EXCAVATION IN WETLAND
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING




PLOT DRIVER: NCDOT\_pdf\_color\_eng\_100.plt  
 USER: cm Myers  
 FILE: MkTg\_Charlotte\Charlotte\_Trans\_Design\_Build\Barnhill\Wilmington\_Bypass\N-2633AA & AB\Roadway\Proj\N2633AA&AB\_RDY\_PSH\_32.dgn  
 PENTABLE: NCDOT\_PERMITS\_B4827\_CON.TBI  
 TIME: 2:50:36 PM SCALE: 1:100  
 DATE: 7/15/2014  
 REVISIONS

REVISIONS

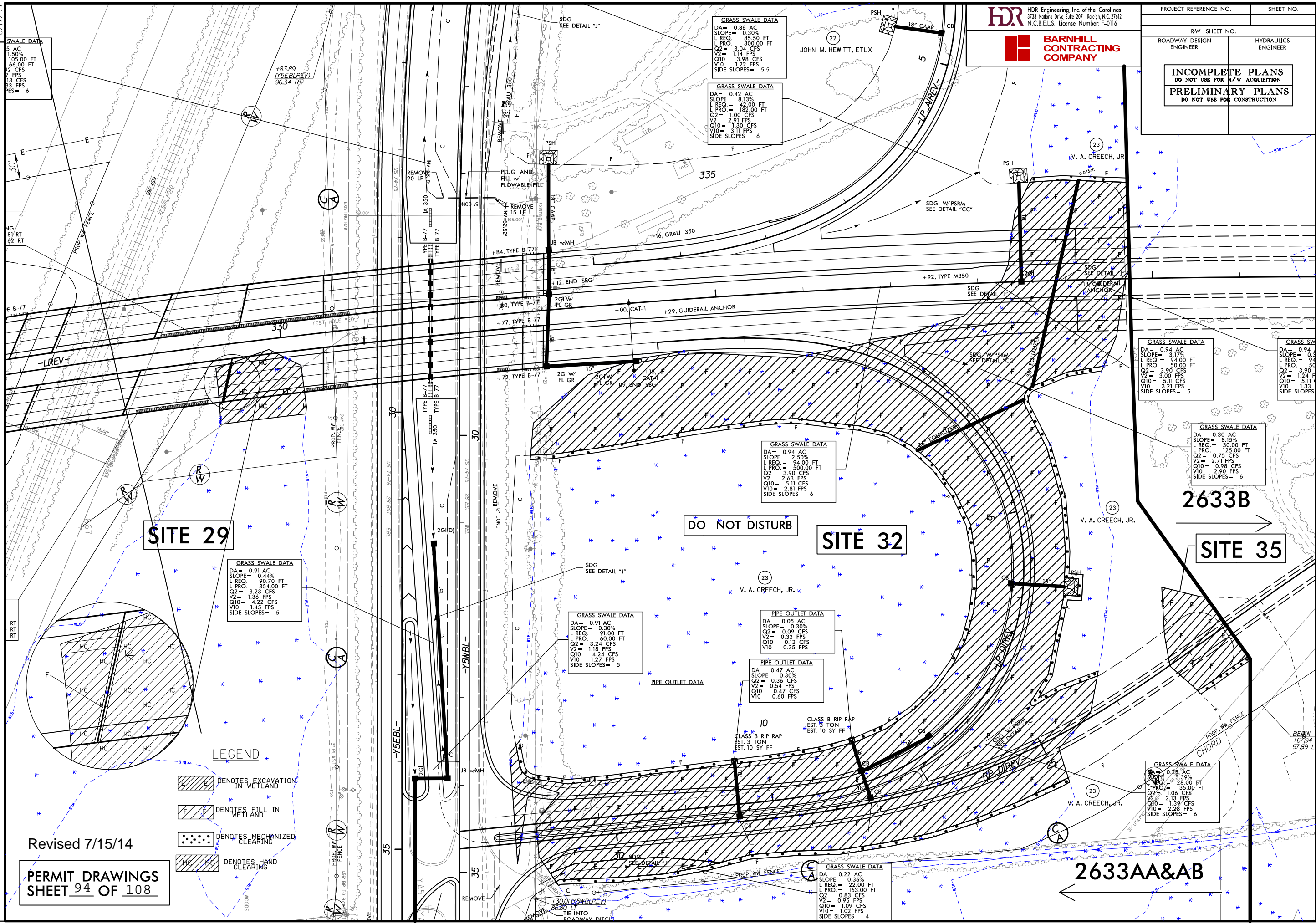


HDR Engineering, Inc. of the Carolinas  
 3733 National Drive, Suite 207 Raleigh, N.C. 27612  
 N.C.B.E.L.S. License Number: F-0116







**BARNHILL CONTRACTING COMPANY**

PROJECT REFERENCE NO.		SHEET NO.	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
<b>INCOMPLETE PLANS</b> DO NOT USE FOR ACQUISITION			
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION			

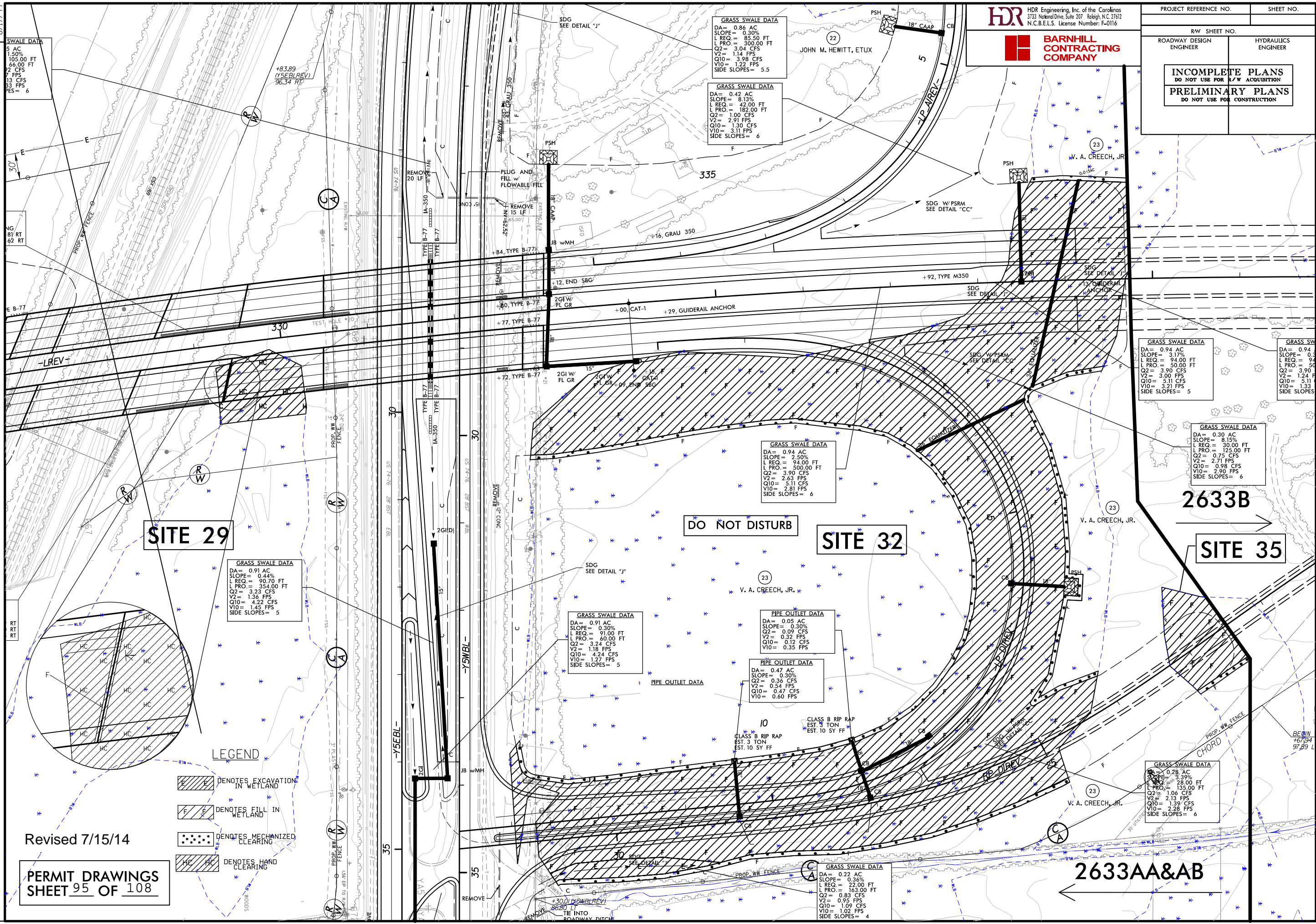


Revised 7/15/14  
**PERMIT DRAWINGS**  
 SHEET 94 OF 108

- LEGEND**
-  DENOTES EXCAVATION IN WETLAND
  -  DENOTES FILL IN WETLAND
  -  DENOTES MECHANIZED CLEARING
  -  DENOTES HAND CLEARING

REVISIONS

PROJECT REFERENCE NO.		SHEET NO.	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
<b>INCOMPLETE PLANS</b> DO NOT USE FOR ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION			



**SWALE DATA**  
 5 AC  
 1.50%  
 105.00 FT  
 66.00 FT  
 2 CFS  
 13 CFS  
 83 FPS  
 ES = 6

**GRASS SWALE DATA**  
 DA = 0.86 AC  
 SLOPE = 0.30%  
 L REQ = 85.50 FT  
 L PRO = 300.00 FT  
 Q2 = 3.04 CFS  
 V2 = 1.14 FPS  
 Q10 = 3.98 CFS  
 V10 = 1.22 FPS  
 SIDE SLOPES = 5.5

**GRASS SWALE DATA**  
 DA = 0.42 AC  
 SLOPE = 8.13%  
 L REQ = 42.00 FT  
 L PRO = 182.00 FT  
 Q2 = 1.00 CFS  
 V2 = 2.91 FPS  
 Q10 = 1.30 CFS  
 V10 = 3.11 FPS  
 SIDE SLOPES = 6

**GRASS SWALE DATA**  
 DA = 0.94 AC  
 SLOPE = 3.17%  
 L REQ = 94.00 FT  
 L PRO = 50.00 FT  
 Q2 = 3.90 CFS  
 V2 = 3.00 FPS  
 Q10 = 5.11 CFS  
 V10 = 3.21 FPS  
 SIDE SLOPES = 5

**GRASS SWALE DATA**  
 DA = 0.94 AC  
 SLOPE = 0.15%  
 L REQ = 94.00 FT  
 L PRO = 50.00 FT  
 Q2 = 3.90 CFS  
 V2 = 1.24 FPS  
 Q10 = 5.11 CFS  
 V10 = 3.21 FPS  
 SIDE SLOPES = 5

**GRASS SWALE DATA**  
 DA = 0.30 AC  
 SLOPE = 8.13%  
 L REQ = 30.00 FT  
 L PRO = 125.00 FT  
 Q2 = 0.75 CFS  
 V2 = 2.71 FPS  
 Q10 = 0.98 CFS  
 V10 = 2.90 FPS  
 SIDE SLOPES = 6

**GRASS SWALE DATA**  
 DA = 0.91 AC  
 SLOPE = 0.30%  
 L REQ = 91.00 FT  
 L PRO = 60.00 FT  
 Q2 = 3.24 CFS  
 V2 = 1.18 FPS  
 Q10 = 4.24 CFS  
 V10 = 1.27 FPS  
 SIDE SLOPES = 5

**PIPE OUTLET DATA**  
 DA = 0.05 AC  
 SLOPE = 0.30%  
 Q2 = 0.09 CFS  
 V2 = 0.32 FPS  
 Q10 = 0.12 CFS  
 V10 = 0.35 FPS

**PIPE OUTLET DATA**  
 DA = 0.47 AC  
 SLOPE = 0.30%  
 Q2 = 0.36 CFS  
 V2 = 0.54 FPS  
 Q10 = 0.47 CFS  
 V10 = 0.60 FPS

**GRASS SWALE DATA**  
 DA = 0.28 AC  
 SLOPE = 3.39%  
 L REQ = 28.00 FT  
 L PRO = 135.00 FT  
 Q2 = 1.06 CFS  
 V2 = 2.13 FPS  
 Q10 = 1.39 CFS  
 V10 = 2.28 FPS  
 SIDE SLOPES = 6

**GRASS SWALE DATA**  
 DA = 0.22 AC  
 SLOPE = 0.36%  
 L REQ = 22.00 FT  
 L PRO = 163.00 FT  
 Q2 = 0.83 CFS  
 V2 = 0.95 FPS  
 Q10 = 1.09 CFS  
 V10 = 1.09 FPS  
 SIDE SLOPES = 4

**SITE 29**

**DO NOT DISTURB**

**SITE 32**

**2633B**

**SITE 35**

Revised 7/15/14

**PERMIT DRAWINGS**  
 SHEET 95 OF 108

- LEGEND**
- DENOTES EXCAVATION IN WETLAND
  - DENOTES FILL IN WETLAND
  - DENOTES MECHANIZED CLEARING
  - DENOTES HAND CLEARING

# LOCHNER

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

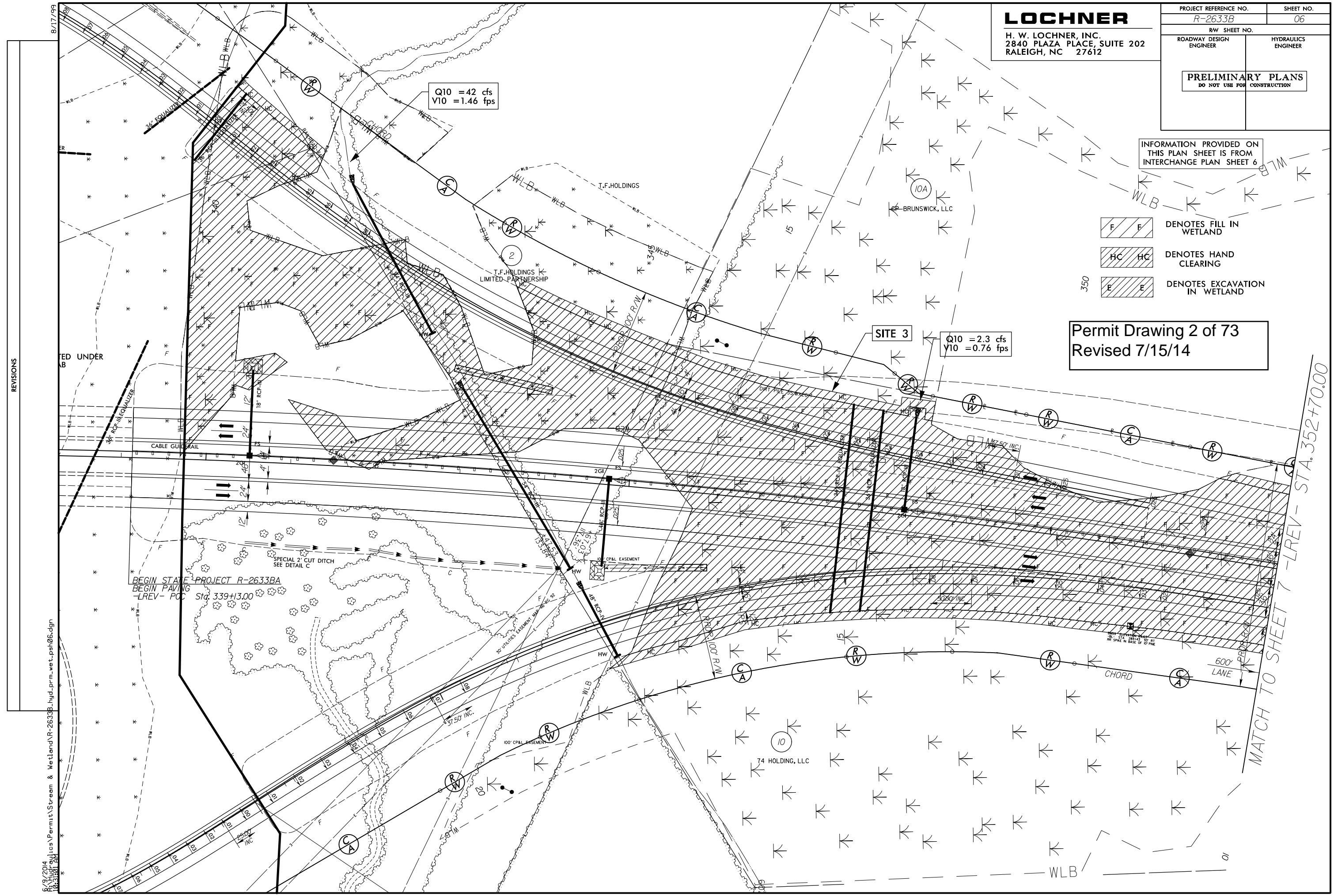
PROJECT REFERENCE NO. R-2633B	SHEET NO. 06
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

INFORMATION PROVIDED ON THIS PLAN SHEET IS FROM INTERCHANGE PLAN SHEET 6

- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES EXCAVATION IN WETLAND

Permit Drawing 2 of 73  
Revised 7/15/14



REVISIONS

6/9/2014  
H:\projects\Permit\Stream & Wetland\R-2633B-hyd\_prm\_wet\_psh06.dgn

MATCH TO SHEET 7 - LREV - STA. 352+70.00

# LOCHNER

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

PROJECT REFERENCE NO. R-2633B	SHEET NO. 06
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

INFORMATION PROVIDED ON THIS PLAN SHEET IS FROM INTERCHANGE PLAN SHEET 6

- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES EXCAVATION IN WETLAND

Permit Drawings 3 of 73  
Revised 7/15/14

Q10 = 42 cfs  
V10 = 1.46 fps

SITE 3  
Q10 = 2.3 cfs  
V10 = 0.76 fps

BEGIN STATE PROJECT R-2633BA  
BEGIN PAVING  
LREV - POC Sta. 339+13.00

SPECIAL 2' CUT DITCH  
SEE DETAIL C

MATCH TO SHEET 7 - LREV - STA. 352+70.00

REVISIONS

6/9/2014  
H:\Hydraulics\Permt\Stream & Wetland\R-2633B-hyd\_prm-wet\_psh06.dgn

8/17/99

**WETLAND PERMIT IMPACT SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS						SURFACE WATER IMPACTS					
			404 Permanent Fill In Wetlands (ac)	CAMA Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	404 Hand Clearing in Wetlands (ac)	CAMA Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1***	-L- 24+75 Lt.	Roadway Fill												
2***	-L- 37+96 Rt.	Bridge												
3****	-LREV- 339+73 to 358+92	Roadway Fill	7.51			0.03			0.58					
4	-RP_D1- 22+60	Deleted due to new JS delineation												
5*	-LREV- 372+74 to -L-85+08	Roadway Fill	1.04						0.12					
6*	-L- 109+28 to 134+54	Roadway Fill	9.72						1.13					
6A**	-L- 138+11 to 140+70	Roadway Fill	0.68											
6B**	-L- 141+20 to 144+29	Roadway Fill	0.41						0.02					
7*	-L- 146+78 to 165+66	Roadway Fill	10.57						0.84					
8	-L 166+60	Deleted due to new JS delineation												
9*	-L- 186+97 to 191+88	Roadway Fill	1.04						0.09					
10	-RP_D2- 19+20 Lt.	Deleted due to new JS delineation												
11*	-L- 194+75 to 216+13	Roadway Fill; 3@42"	8.72						0.93	0.07	<0.01	205	20	
12	-L- 230+39 to 242+11	Deleted due to new JS delineation												
13	-L- 256+36 to 265+87	Deleted due to new JS delineation												
14*	-L- 264+32 to 266+94	Bridge					0.03		0.20	<0.01				
		Temp. Work Bridge							0.10					
15*	319+46 to 387+92	Bridge	0.05			*****0.93			10.48	7.79	0.13	0.03		
		Temp. Work Bridge							6.43	4.70				
16*	-L- 399+43 to 400+51	Roadway Fill	0.22											
17****	-Y5-16+25 Rt.	48" RCP												
18****	-Y5-16+25 Lt.	48" RCP												
19*	-Y7- 52+09	Culvert								<0.01	<0.01	5	39	
	-Y7 DET- 16+45	Detour Culvert			0.06				0.03		0.61		90	
20*	-Y8- 47+74 to 49+88	Bridge	<0.01				0.04		0.17					
	-Y8- 48+78 to 49+95	Temp. Work Bridge							0.14					
<b>TOTALS:</b>			<b>39.96</b>		<b>0.06</b>	<b>0.96</b>	<b>0.07</b>	<b>21.25</b>	<b>12.49</b>	<b>0.20</b>	<b>0.63</b>	<b>210</b>	<b>149</b>	<b>0.00</b>

Site 14 See Structures sheet for Bridge Impacts on Cartwheel Branch  
 Site 15 Impacts for Permanent Dual Bridges CAMA=0.07 Ac, 404=0.07 Ac, Surface Water=0.0 1Ac; Total=0.15 Ac.  
 Site 15 Impacts for Temporary Work Bridge CAMA=0.16 Ac, 404=0.21 Ac, Surface Water=0.0 1 Ac; Total=0.38 Ac.  
 \* Revised due to new JS Delineation  
 \*\* New Site due to new JS Delineation  
 \*\*\* Sites 1, 2, 17, and 18 are now permitted with R-2633AA & AB and the impacts are included with that project.  
 \*\*\*\* A portion of Site 3 is now permitted with R-2633AA & AB and the impacts are included with that project.  
 \*\*\*\*\* Temporary Excavation. CAMA=0.41Ac, 404 =0.52 Ac.; Total=0.91 Ac.  
 0.75 acres of Temp. Fill in 404 Wetlands in the Hand Clearing areas for Erosion Control Measures

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 BRUNSWICK AND NEW HANOVER COUNTIES  
 WBS - 34491.1.2 (R-2633B)  
**73 of 73**  
 SHEET

Revised 7/15/14

UTILITIES BY OTHERS

NOTE:  
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

Utility Permit Drawing  
Sheet 3 of 15  
Revised 4/22/14

HC HC DENOTES HAND CLEARING

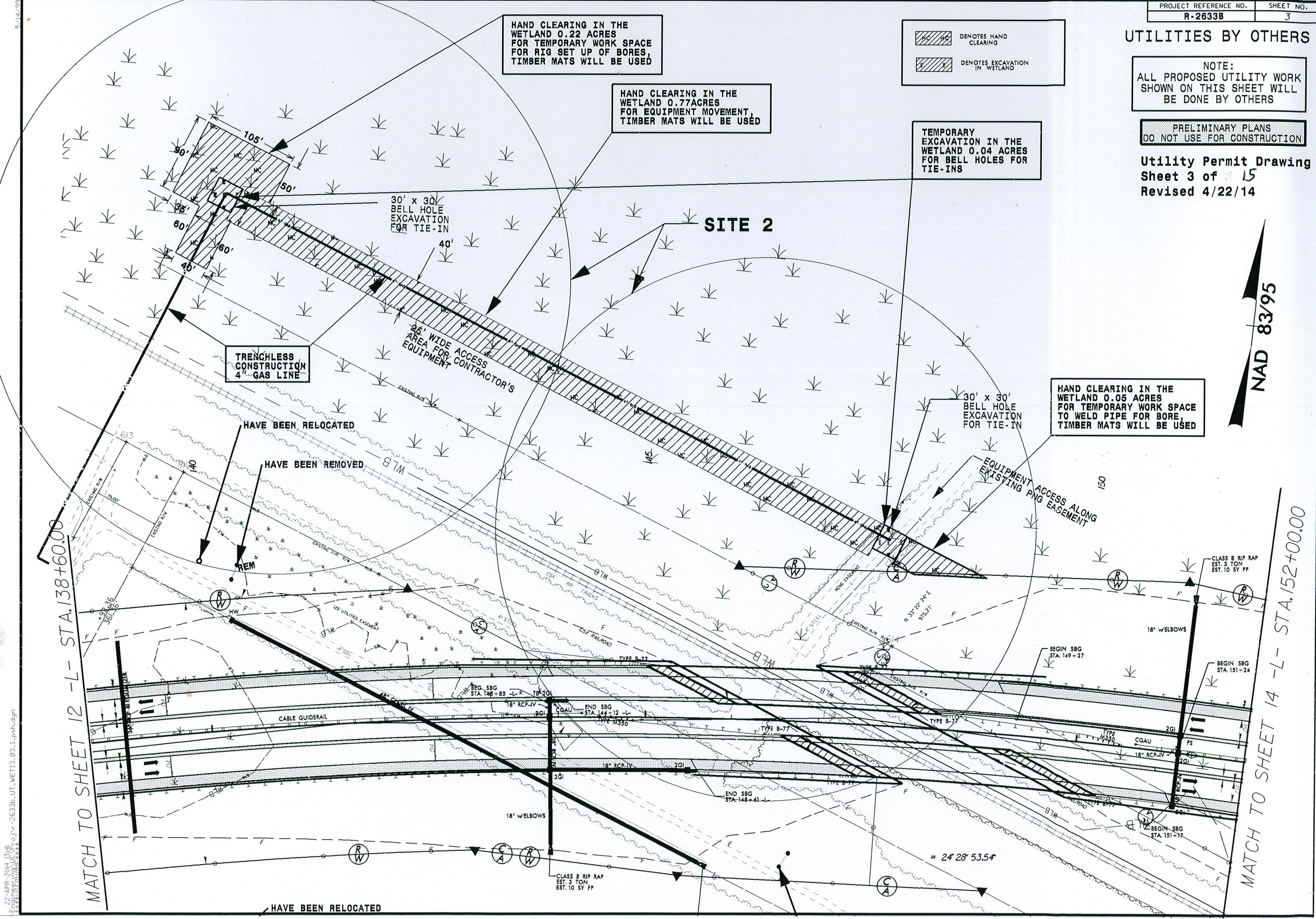
E E DENOTES EXCAVATION IN WETLAND

HAND CLEARING IN THE WETLAND 0.22 ACRES FOR TEMPORARY WORK SPACE FOR RIG SET UP OF BORES, TIMBER MATS WILL BE USED

HAND CLEARING IN THE WETLAND 0.77 ACRES FOR EQUIPMENT MOVEMENT, TIMBER MATS WILL BE USED

TEMPORARY EXCAVATION IN THE WETLAND 0.04 ACRES FOR BELL HOLES FOR TIE-INS

HAND CLEARING IN THE WETLAND 0.05 ACRES FOR TEMPORARY WORK SPACE TO WELD PIPE FOR BORE, TIMBER MATS WILL BE USED



NAD 83/95

MATCH TO SHEET 12 -L- STA.138+60.00

MATCH TO SHEET 14 -L- STA.152+00.00

22-APR-2014 10:41 AM  
E:\26333b\UT-WET13\_03.L\psd.dgn

HAVE BEEN RELOCATED

CLASS B RIP RAP  
EST. 3 TON  
EST. 10 SY FF

= 24° 28' 53.5"

**WETLAND PERMIT IMPACT SUMMARY**

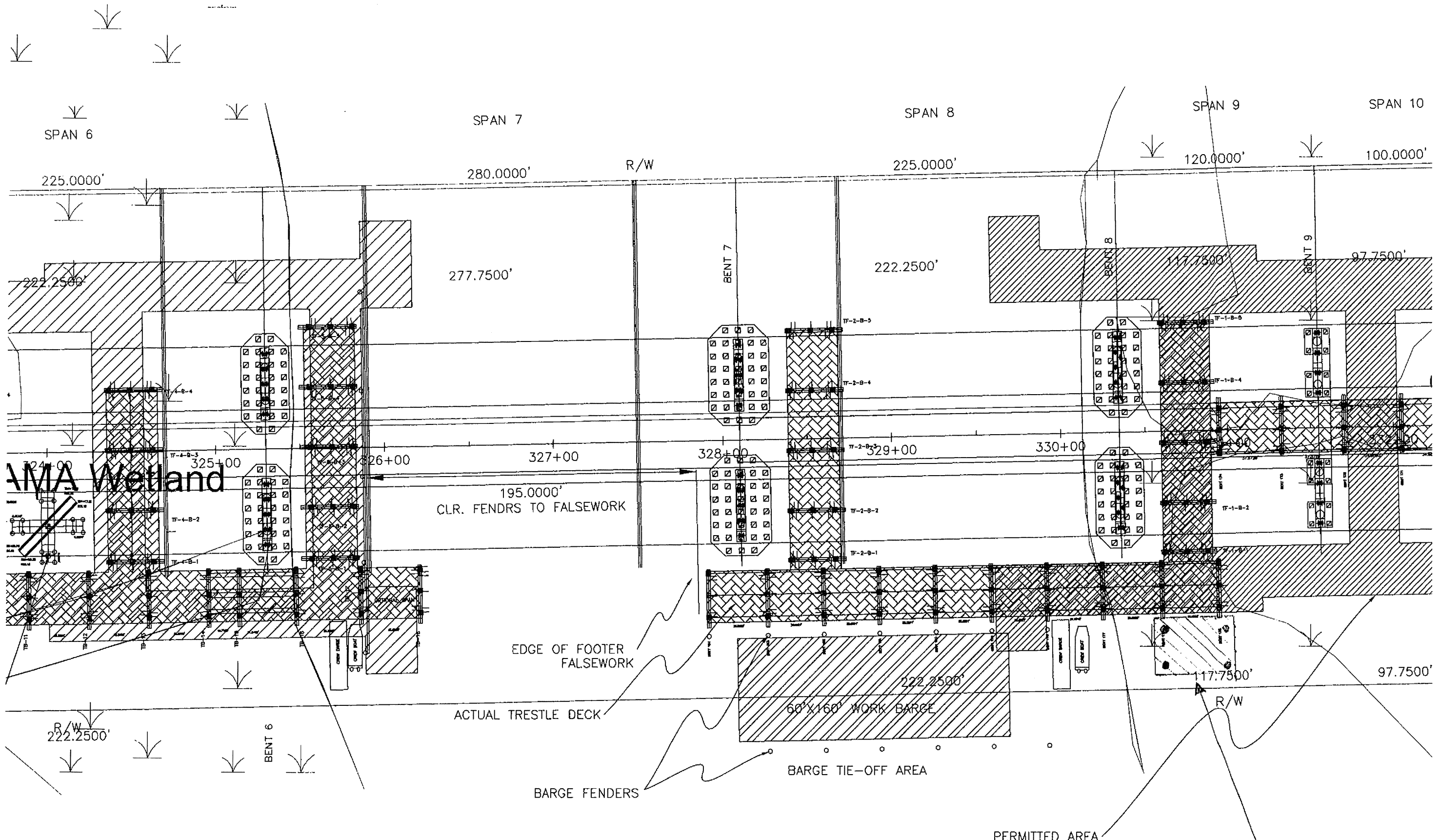
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS							SURFACE WATER IMPACTS				
			404 Permanent Fill In Wetlands (ac)	CAMA Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	404 Hand Clearing in Wetlands (ac)	CAMA Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-Y8- 46+60	Prop. O/H Power line						0.15						
	-Y8- 48+58	Prop. Power Pole	<0.01											
	-Y8_ 46+77 ~ 48+10	Prop. Water Line				<0.01*					<0.01*		16	
	-Y8- 46+72 ~ 47+58	Prop. Force Main Sewer				<0.01*								
2	-L- 140+00~141+23	Rig set up of bores 4" gas line						0.22						
	-L- 140+36~140+74	Bell holes for tie-ins 4" gas line				0.02*								
	-L- 142+78~147+63	Equipment Movement						0.77						
	-L- 147+50~147+89	Bell holes for tie-ins 4" gas line				0.02*								
	-L- 147+75~148+80	Weld pipe for bore						0.05						
<b>TOTALS:</b>			<0.01		0.00	0.05	0.00	1.19	0.00	0.00	<0.01	0	16	0.00

\* Temporary Excavation  
 \* Excavation will be set to the side and then place back into the hole.

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 BRUNSWICK AND NEW HANOVER COUNTIES  
 WBS - 34491.1.2 (R-2633B)

SHEET *15 of 15*  
*revised 4/22/14*





RT.

TRESTLE AND BARGES AT RIVER PHASE III

DRIVING PILES AND SETTING HAUNCH GIRDERS

Revised 9/30/14  
SDM

*Proposed Elevated Storage area, 30'x50'*