STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

June 3, 2013

U.S. Army Corps of Engineers
Wilmington District Office
69 Darlington Avenue
Wilmington, NC 28403

ATTN: Mr. Ronnie Smith
NCDOT Division 8 Project Coordinator

SUBJECT: **Application for Section 404 Nationwide Permit 23** for the replacement of Bridge No. 37 over Raft Swamp on SR 1436 (Balfour Road), Hoke County, North Carolina. Federal Aid Project No. BRZ-1436 (2), TIP No. B-5132.

Please find enclosed the Pre-Construction Notification (PCN), Preliminary Jurisdictional Determination (JD), Stormwater Management Plan, permit drawings, and roadway design plans for the subject project. A Programmatic Categorical Exclusion (PCE) was completed for this project in May 2012 and distributed shortly thereafter. Additional copies are available upon request.

The proposed let date for this project is February 18, 2014, with a let review date of December 31, 2013. However, the let date may advance as additional funds become available.

A copy of this permit application will be posted on the NCDOT Website at: https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Jim Mason at either jsmason@ncdot.gov or (919) 707-6136.

Sincerely,

E. L. Lusk

Gregory J. Thorpe, Ph.D., Manager
Project Development and Environmental Analysis Unit

cc: NCDOT Permit Application Standard Distribution List

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
NATURAL ENVIRONMENT SECTION
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-707-6100

FAX: 919-212-5785

WEBSITE: WWW.NCDOT.ORG

PHYSICAL ADDRESS:
Century Center - Building B
1020 Birch Ridge Dr
Raleigh, NC 27610-4328

Office Use Only:
Corps action ID no. _____
DWQ project no. _____
Form Version 1.3 Dec 10 2008

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	☒ Section 404 Permit	☐ Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 23	or General Permit (GP) number:	
1c. Has the NWP or GP number been verified by the Corps?	☐ Yes	☒ No

1d. Type(s) of approval sought from the DWQ (check all that apply):

☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit

☐ 401 Water Quality Certification – Express ☐ Riparian Buffer Authorization

1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: ☒ Yes ☐ No	For the record only for Corps Permit: ☐ Yes ☒ No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.		☐ Yes ☒ No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.		☐ Yes ☒ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?		☐ Yes ☒ No

2. Project Information

2a. Name of project:	Replacement of Bridge No. 37 over Raft Swamp on SR 1436 (Balfour Rd)
2b. County:	Hoke
2c. Nearest municipality / town:	Red Springs
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P. or state project no:	B-5132

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	*not applicable*
3c. Responsible Party (for LLC if applicable):	*not applicable*
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6136
3g. Fax no.:	(919) 212-5785
3h. Email address:	jsmason@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ Other, specify:
4b. Name:	*not applicable*
4c. Business name (if applicable):	
4d. Street address:	
4e. City, state, zip:	
4f. Telephone no.:	
4g. Fax no.:	
4h. Email address:	
5. Agent/Consultant Information (if applicable)	
5a. Name:	*not applicable*
5b. Business name (if applicable):	
5c. Street address:	
5d. City, state, zip:	
5e. Telephone no.:	
5f. Fax no.:	
5g. Email address:	

B. Project Information and Prior Project History		
1. Property Identification		
1a. Property identification no. (tax PIN or parcel ID):	*not applicable*	
1b. Site coordinates (in decimal degrees):	Latitude: 34.8676 (DD.DDDDDD)	Longitude: - 79.1698 (-DD.DDDDDD)
1c. Property size:	0.9 acres	
2. Surface Waters		
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Raft Swamp	
2b. Water Quality Classification of nearest receiving water:	C Sw	
2c. River basin:	Lumber	
3. Project Description		
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: SR 1436 (Balfour Road) is classified as a Local Route. Land use within the vicinity includes Forested Land, Agriculture, and Low- to Medium-Density Residential.		
3b. List the total estimated acreage of all existing wetlands on the property: 0.17 acres		
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 80 linear feet		
3d. Explain the purpose of the proposed project: To replace a structurally deficient and functionally obsolete bridge.		
3e. Describe the overall project in detail, including the type of equipment to be used: The project consists of replacing the existing four-span, 69-foot long bridge with a three-span, 122.5-foot bridge on the existing alignment. Traffic will be maintained via an off-site detour. Standard road building equipment, such as trucks, dozers, and cranes will be used.		
4. Jurisdictional Determinations		
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments: Prelim JD (USACE) received March 11, 2010	☒ Yes ☐ No ☐ Unknown	
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☒ Preliminary ☐ Final	
4c. If yes, who delineated the jurisdictional areas? Name (if known): Principal Investigator: Jim Mason	Agency/Consultant Company: NCDOT Other:	
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. March 11, 2010		
5. Project History		
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	☐ Yes ☒ No ☐ Unknown	
5b. If yes, explain in detail according to "help file" instructions.		
6. Future Project Plans		
6a. Is this a phased project?	☐ Yes ☒ No	
6b. If yes, explain.		

C. Proposed Impacts Inventory

1. Impacts Summary

1a. Which sections were completed below for your project (check all that apply):

☒ Wetlands ☒ Streams - tributaries ☐ Buffers

☐ Open Waters ☐ Pond Construction

2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
Site 1 ☒ P ☐ T	Permanent Fill	Swamp	☒ Yes ☐ No	☒ Corps ☐ DWQ	<0.01
Site 1 ☒ P ☐ T	Mechanized Clearing	Swamp	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.02
Site 2 ☒ P ☐ T	Permanent Fill	Swamp	☐ Yes ☒ No	☒ Corps ☐ DWQ	<0.01
Site 2 ☒ P ☐ T	Mechanized Clearing	Swamp	☐ Yes ☒ No	☒ Corps ☐ DWQ	0.03
Site 3 ☒ P ☐ T	Permanent Fill	Swamp	☐ Yes ☒ No	☒ Corps ☐ DWQ	<.0.01
Site 3 ☒ P ☐ T	Mechanized Clearing	Swamp	☐ Yes ☒ No	☒ Corps ☐ DWQ	0.02
Site 4 ☒ P ☐ T	Permanent Fill	Swamp	☒ Yes ☐ No	☒ Corps ☐ DWQ	<0.01
Site 4 ☒ P ☐ T	Mechanized Clearing	Swamp	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.02
				2g. **Total wetland impacts**	0.08* Perm. 0 Temp.

2h. Comments: *Total un-rounded permanent wetland impacts = 0.0827 ac.

3. Stream Impacts

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
				3h. **Total stream and tributary impacts**		Perm Temp

3i. Comments: 2 bridge piers will be installed in the creek, with an impact totaling 99 square feet (0.0023 ac.).

4. Open Water Impacts

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ T				
			4f. Total open water impacts	0 Permanent 0 Temporary

4g. Comments:

5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
	5f. Total							

5g. Comments:

5h. Is a dam high hazard permit required?	☐ Yes ☐ No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

If project will impact a protected riparian buffer, then complete the chart below. If yes, then individually list all buffer impacts below. If any impacts require mitigation, then you **MUST** fill out Section D of this form.

6a. Project is in which protected basin?			☐ Neuse ☐ Catawba	☐ Tar-Pamlico ☐ Randleman	☐ Other:
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
Site ☐ P ☐ T			☐ Yes ☐ No		
Site ☐ P ☐ T			☐ Yes ☐ No		
Site ☐ P ☐ T			☐ Yes ☐ No		
		6h. **Total buffer impacts**			
6i. Comments:					

D. Impact Justification and Mitigation

1. Avoidance and Minimization

1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.

The new bridge will be longer than the existing one; The proposed bridge will have one less bent than the existing bridge; An off-site detour will be employed; Class B Rip rap pads will be installed at stormwater pipe outlets in each of the four quadrants of the project. The pads will be used to diffuse stormwater flow prior to it entering Raft Swamp.

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.

NCDOT Best Management Practices for Bridge Demolition and Removal will be implemented during the removal of the existing bridge; Best Management Practices for the Protection of Surface Waters will be employed.

2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State

2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	☐ Yes ☒ No If no, explain: Wetland impacts are less than 0.1 ac.
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☐ Corps
2c. If yes, which mitigation option will be used for this project?	☐ Mitigation bank ☐ Payment to in-lieu fee program ☐ Permittee Responsible Mitigation

3. Complete if Using a Mitigation Bank

3a. Name of Mitigation Bank: not applicable

3b. Credits Purchased (attach receipt and letter)	Type	Quantity

3c. Comments:

4. Complete if Making a Payment to In-lieu Fee Program

4a. Approval letter from in-lieu fee program is attached.	☐ Yes
4b. Stream mitigation requested:	0 linear feet
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☐ cold
4d. Buffer mitigation requested (DWQ only):	0 square feet
4e. Riparian wetland mitigation requested:	0 acres
4f. Non-riparian wetland mitigation requested:	0 acres
4g. Coastal (tidal) wetland mitigation requested:	0 acres

4h. Comments:

5. Complete if Using a Permittee Responsible Mitigation Plan

5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.

6. **Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ**				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?				☐ Yes ☐ No
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
	6f. **Total buffer mitigation required:**			
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	☐ Yes ☒ No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments:	☐ Yes ☐ No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	☒ Yes ☐ No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	☐ Certified Local Government ☐ DWQ Stormwater Program ☒ DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	☐ Phase II ☐ NSW ☐ USMP ☐ Water Supply Watershed ☐ Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	☐ Coastal counties ☐ HQW ☐ ORW ☐ Session Law 2006-246 ☐ Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☐ Yes ☐ No N/A
5b. Have all of the 401 Unit submittal requirements been met?	☐ Yes ☐ No N/A

F. Supplementary Information		
1. Environmental Documentation (DWQ Requirement)		
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	☒ Yes	☐ No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	☒ Yes	☐ No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments:	☒ Yes	☐ No
2. Violations (DWQ Requirement)		
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	☐ Yes	☒ No
2b. Is this an after-the-fact permit application?	☐ Yes	☒ No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):		
3. Cumulative Impacts (DWQ Requirement)		
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	☐ Yes ☒ No	
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description. Due to the minimal transportation impact resulting from this bridge replacement, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.		
4. Sewage Disposal (DWQ Requirement)		
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. not applicable		

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	☒ Yes	☐ No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	☒ Yes	☐ No
5c. If yes, indicate the USFWS Field Office you have contacted.	☒ Raleigh ☐ Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NC Natural Heritage Program data, USFWS website, NCDOT field surveys		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	☐ Yes	☒ No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	☐ Yes	☒ No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	☒ Yes	☐ No
8b. If yes, explain how project meets FEMA requirements: Coordination between NCDOT Hydraulics Unit and FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		

Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	E. L. Lupt Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	6.3.13 Date

Mason

ATTACHMENT

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): March 11, 2010

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD: Mr. James Mason, N.C. Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1598

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: SAW-2010-00415 (NCDOT/ B-5132/ replacement of bridge no. 37 over Raft Swamp Creek on Balfour Road (SR 1436), near Red Springs, Hoke County/ Div. 8)

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION: (USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: NC County/parish/borough: Hoke City: Antioch
Center coordinates of site (lat/long in degree decimal format):
Lat. 34.8676°N, Long. -79.1699°W
Universal Transverse Mercator:
Name of nearest waterbody: Raft Swamp Creek

Identify (estimate) amount of waters in the review area:
Non-wetland waters: 220 linear feet: 35-65 width (ft) and/or acres.
Cowardin Class: Riverine
Stream Flow: Perennial
Wetlands: 4.18 acres.
Cowardin Class: Forested (WA, WB, WD), Emergent/Forested (WC)

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal:
Non-Tidal:

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: March 11, 2010
☐ Field Determination. Date(s):

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Vicinity Map, Project Study Area Map, and Features Map (provided by NCDOT).
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- ☐ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
- ☐ USGS NHD data.
- ☐ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name:Red Springs, North Carolina (1:24,000).
☒ USDA Natural Resources Conservation Service Soil Survey. Citation:Hoke County (http://websoilsurvey.nrcs.usda.gov/app/).
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☐ Photographs: ☐ Aerial (Name & Date): .
or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Other information (please specify): .

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

3/11/10
Signature and date of Regulatory Project Manager (REQUIRED)

James Mason 3/11/10
Signature and date of person requesting preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

SAMPLE

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
1 (SA)	34.8676°	-79.1699°	Riverine	220 linear feet	Non-section 10 – non-tidal, Perennial
1 (WA)	34.8676°	-79.1699°	Forested	0.99 acres	Non-section 10 – non-tidal
1 (WB)	34.8676°	-79.1699°	Forested	0.98 acres	Non-section 10 – non-tidal
1 (WC)	34.8676°	-79.1699°	Emergent/ Forested	1.11 acres	Non-section 10 – non-tidal
1 (WD)	34.8676°	-79.1699°	Forested	1.10 acres	Non-section 10 – non-tidal

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR LINEAR ROADWAY PROJECTS

(Version 1.2; Released July 2012)

Project/TIP No.: B-5132 **County(ies):** Hoke

General Project Information

Project No.:	B-5132	**Project Type:**	Bridge Replacement	**Date:**	3/1/2013
NCDOT Contact:	Marshall Clawson, PE	**Contractor / Designer:**	Ecological Engineering, LLP		
Address:	NCDOT-Hydraulics Unit 1020 Birch Ridge Road Raleigh, NC, 27610	**Address:**	1151 SE Cary Parkway Suite 101 Cary, NC 27518		
Phone:	919-707-6713	**Phone:**	919-557-0929		
Email:	mclawson@ncdot.gov	**Email:**	jfleming@ecologicaleng.com		
City/Town:		**County(ies):**	Hoke		
River Basin(s):	Lumber	**CAMA County?**	No		
Primary Receiving Water:	Raft Swamp	**NCDWQ Stream Index No.:**	14-10-(1)		
NCDWQ Surface Water Classification for Primary Receiving Water	**Primary:**	Class C			
	Supplemental:	Swamp Waters (Sw)			
Other Stream Classification:					
303(d) Impairments:	None				
Buffer Rules in Effect	N/A				

Project Description

Project Length (lin. Miles or feet):	450'	**Surrounding Land Use:**	Wooded		
	Proposed Project		**Existing Site**		
Project Built-Upon Area (ac.)	0.30 ac.		0.19 ac.		
Typical Cross Section Description:	2-11' lanes with 5' paved shoulders at bridge guardrail		2-9' lanes with 5'-7' grass shoulders		
Average Daily Traffic (veh/hr/day):	Design/Future:	960/1730	Existing:	960	
General Project Narrative:	This project involves replacing bridge #37 over Raft Swamp on SR 1436 (Balfour Road)				

References

Project/TIP No.: B-5132 **County(ies):** Hoke

Project Environmental Summary

Surface Water Impacts

Sheet No.	Station (From / To)	Feature Impacted	Water / Wetland / Buffer Type	Receiving Surface Water Name	NRTR Map ID	NCDWQ Stream Index	NCDWQ Surface Water Classification	303(d) Impairments	Type of Impact	Existing SCM	Proposed SCM
4	12+00 16+50	Wetland	Bottomland Hardwood	Raft Swamp		14-10-(1)	C, Sw	None	Fill	N/A	

* List all stream and surface water impact locations regardless of jurisdiction or size.
Equalizer Pipes to be noted as a minimization of impacts.
All proposed SCMs listed must also be listed under Swales, Preformed Sour Holes and other Energy Dissipators, or Other Stormwater Control Measures.

Description of Minimization of Impacts or Mitigation

References

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR LINEAR ROADWAY PROJECTS

(Version 1.2; Released July 2012)

Project/TIP No.: B-5132 **County(ies):** Hoke

Preformed Scour Holes and Energy Dissipators

Sheet No.	Station	Energy Dissipator Type	Riprap Type	Drainage Area (ac)	Conveyance Structure	Pipe/Structure Dimensions (in)	Q10 (cfs)	V10 (fps)
4	13+06 -L- RT	Riprap Apron / Pad	Class 'B'	0.03	Pipe	15	0.2	0.3
4	13+06 -L- Lt	Riprap Apron / Pad	Class 'B'	0.03	Pipe	15	0.2	0.3
4	14+65 -L- Rt	Riprap Apron / Pad	Class 'B'	0.02	Pipe	15	0.1	0.3
4	14+65 -L- Rt	Riprap Apron / Pad	Class 'B'	0.02	Pipe	15	0.1	0.3

☑ YES ☐ NO Have minimum design criteria, as presented in the NCDOT Best Management Practices Toolbox (2008), NCDOT Standard Details, or FHWA HEC-14 (July 2006), been met and verified, as applicable? If No, provide further explanantion of why design criteria was not met.

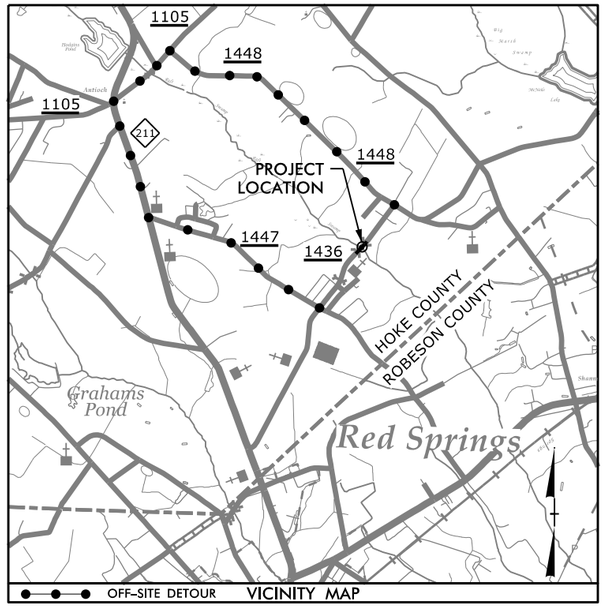
Additional Comments

* Refer to the NCDOT Best Management Practices Toolbox, Version 1 (March 2008), NCDOT Standard Details, 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.

09/08/06

TIP PROJECT: B–5132

CONTRACT:



ROW PLANS

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HOKE COUNTY

LOCATION: ***BRIDGE NO. 37 OVER RAFT SWAMP ON SR 1436 (BALFOUR RD)***

TYPE OF WORK: ***GRADING, PAVING, DRAINAGE, AND STRUCTURE***

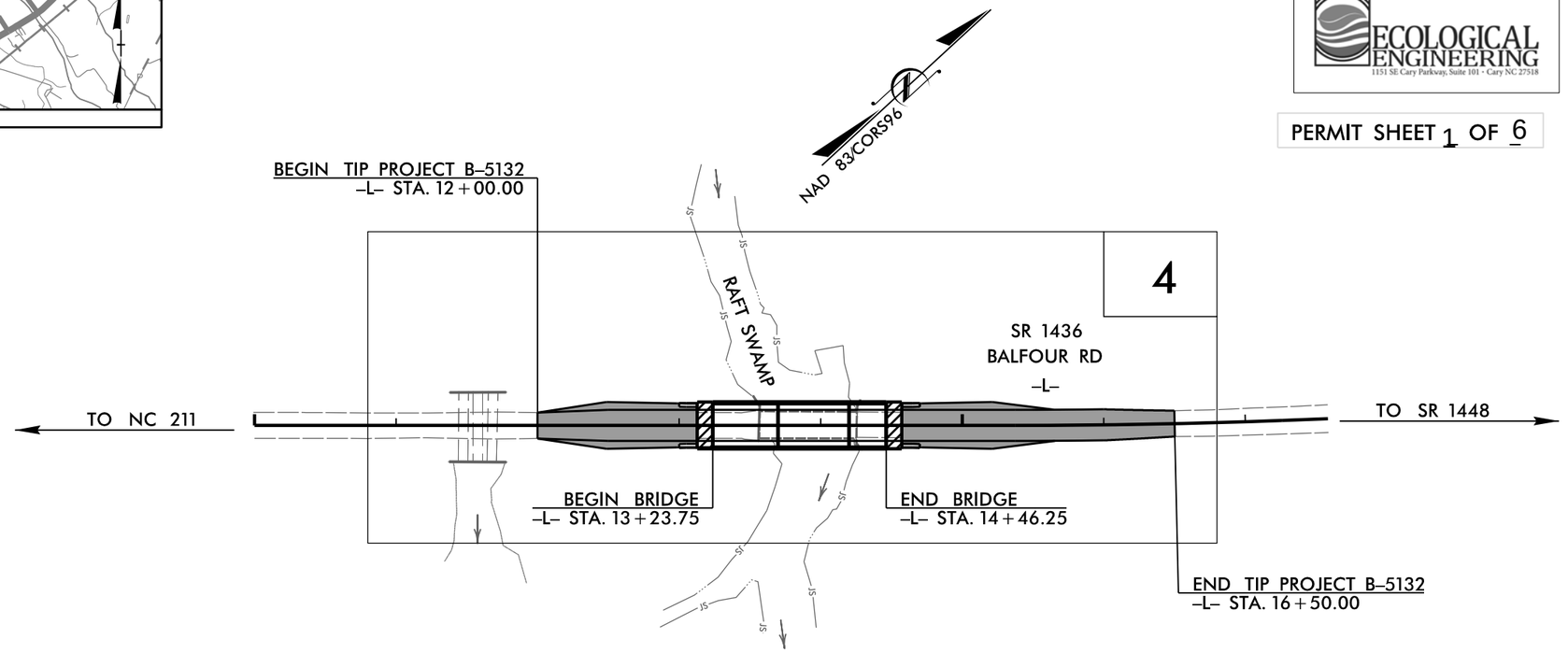
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B–5132	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42291.1.1	BRZ–1436(2)	PE
42291.2.1	BRZ–1436(2)	R/W & UTILITIES

STEWART
421 FAYETTEVILLE ST, STE 400
RALEIGH, NC 27601
T 919.380.8750
Firm License #: C-1051
www.stewartinc.com
PROJECT #:B12002

ECOLOGICAL ENGINEERING
1151 SE Cary Parkway, Suite 101 - Cary NC 27518

PERMIT SHEET 1 OF 6



THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III

WETLAND AND SURFACE WATER IMPACTS PERMIT

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2013 = 960
ADT 2033 = 1730
DHV = 13%
D = 60%
T = 6% *
* (TTST 2% + DUAL 4%)
V = 60 MPH
CLASS = RURAL LOCAL

SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B–5132	=	0.062 mi.
LENGTH STRUCTURE TIP PROJECT B–5132	=	0.023 mi.
TOTAL LENGTH TIP PROJECT B–5132	=	0.085 mi.

Prepared in the Office of:
STEWART
For
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 15, 2013

LETTING DATE:
FEBRUARY 18, 2014

BEN CRAWFORD, PE
PROJECT ENGINEER

JONATHAN HEFNER, PE
PROJECT DESIGN ENGINEER

BRENDA L. MOORE, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

2/28/2013
\\B5132_hyd_prm_psh05_tsh_wet.dgn
USER:hefner

ROADWAY DESIGN ENGINEER — HYDRAULICS ENGINEER

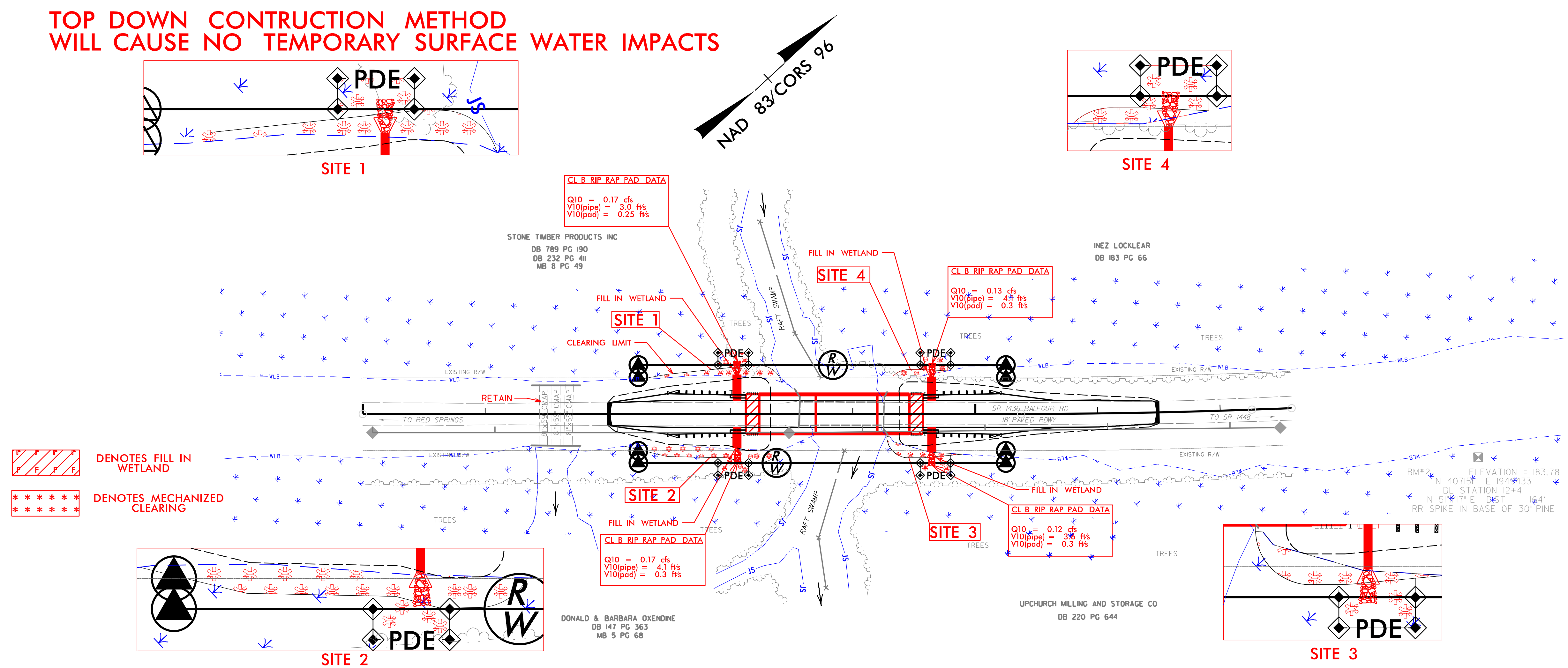
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

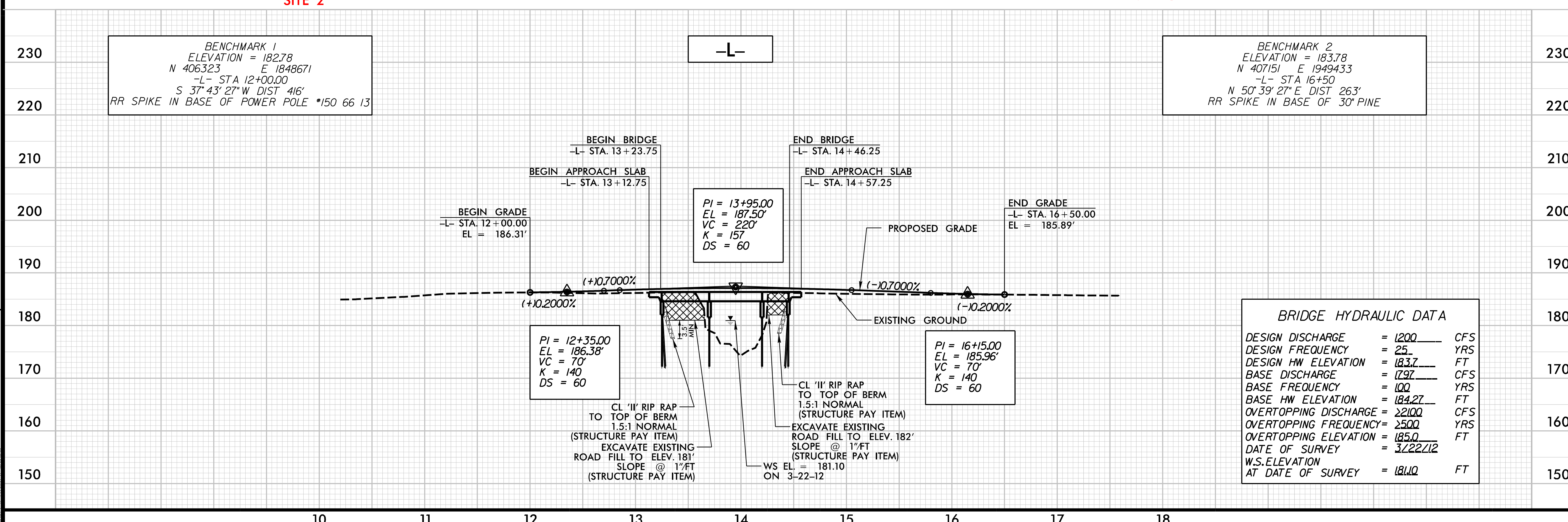
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

STEWART — ECOLOGICAL ENGINEERING

PERMIT SHEET 2 OF 6

TOP DOWN CONTRUCTION METHOD
WILL CAUSE NO TEMPORARY SURFACE WATER IMPACTS





BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	1200	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	183.7	FT
BASE DISCHARGE	=	1797	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	184.27	FT
OVERTOPPING DISCHARGE	=	>2100	CFS
OVERTOPPING FREQUENCY	=	>500	YRS
OVERTOPPING ELEVATION	=	185.0	FT
DATE OF SURVEY	=	3/22/12	
W.S. ELEVATION AT DATE OF SURVEY	=	181.10	FT

REVISIONS

8/17/99

TOP DOWN CONTRUCTION METHOD WILL CAUSE NO TEMPORARY SURFACE WATER IMPACTS

PROJECT REFERENCE NO.	SHEET NO.
B-5132	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

STEWART
Firm License No. C-1061
421 Fayetteville St.
Suite 530
Raleigh, NC 27601
T. 919.380.8700
www.stewartinc.com

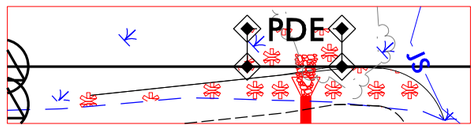
ECOLOGICAL ENGINEERING

PERMIT SHEET 3 OF 6

8/17/99

REVISIONS

NAD 83/CORS 96



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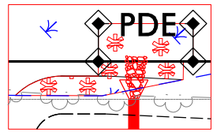
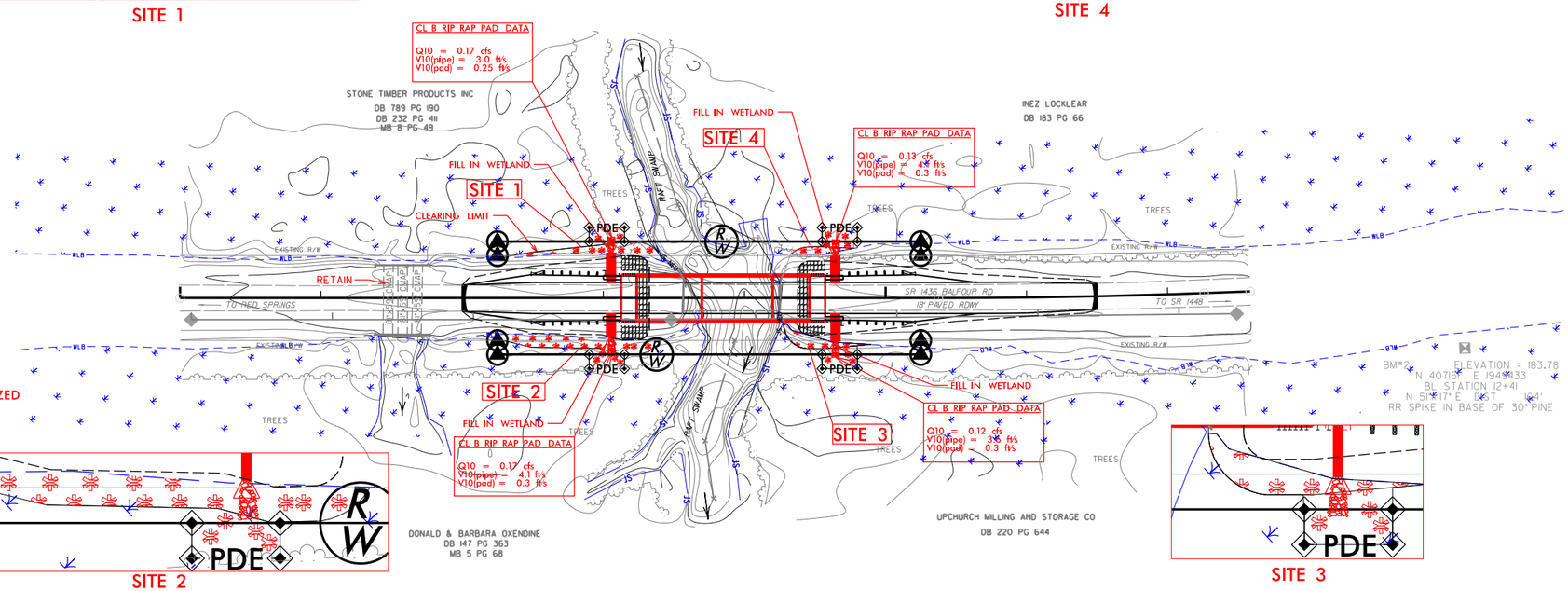


SITE 4



DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

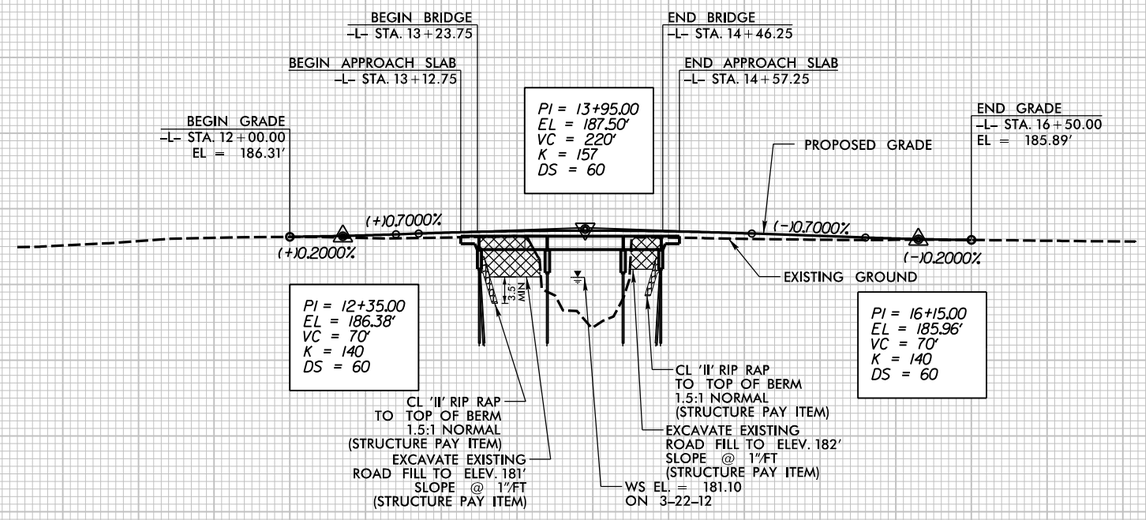
SITE 2

SITE 3

BENCHMARK 1
ELEVATION = 182.78
N 406323 E 1848671
-L- STA 12+00.00
S 37° 43' 27" W DIST 416'
RR SPIKE IN BASE OF POWER POLE #150 66 13

-L-

BENCHMARK 2
ELEVATION = 183.78
N 407151 E 1949433
-L- STA 16+50
N 50° 39' 27" E DIST 263'
RR SPIKE IN BASE OF 30" PINE

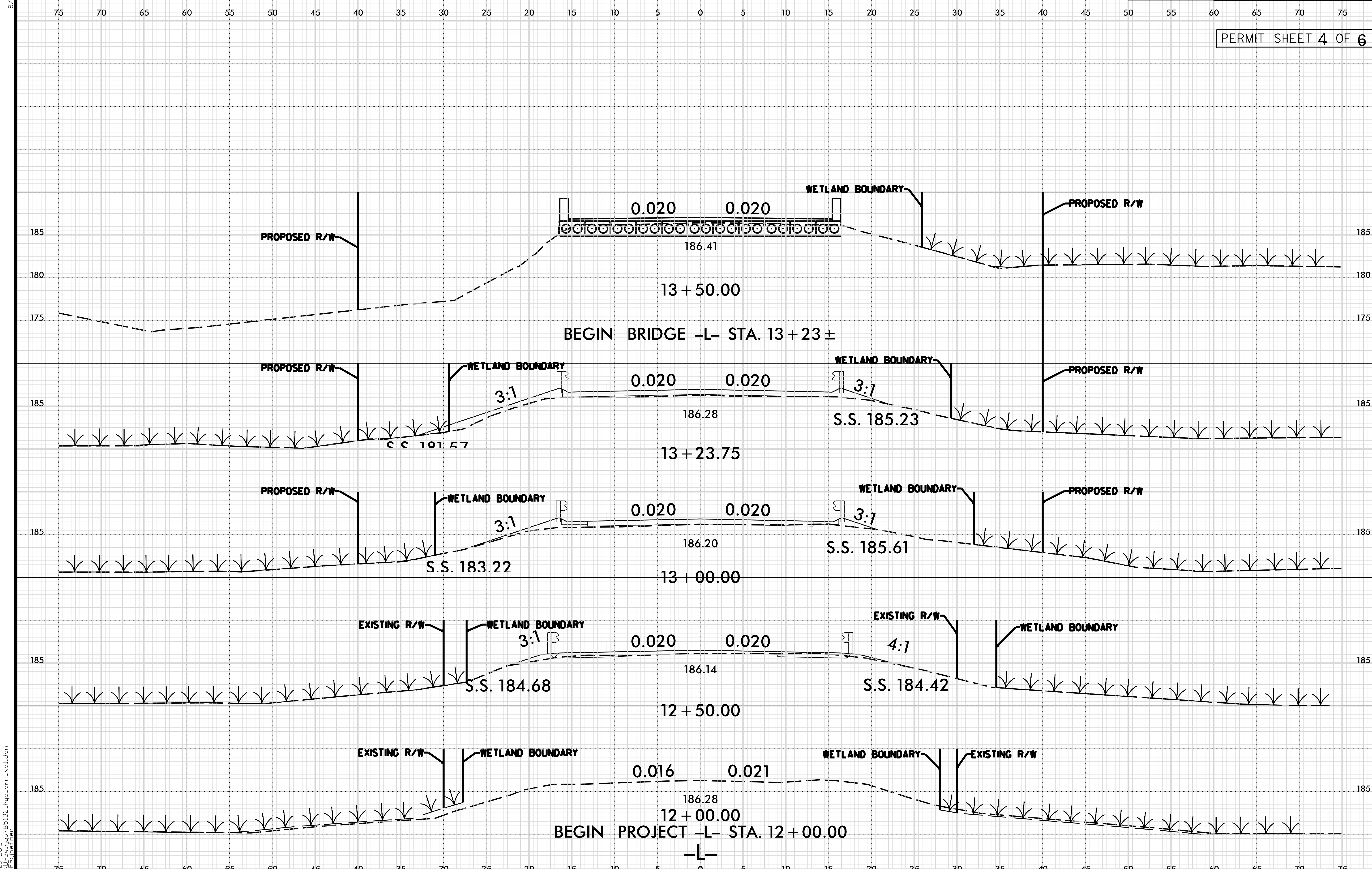


BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1200	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 183.7	FT
BASE DISCHARGE	= 1797	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 184.27	FT
OVERTOPPING DISCHARGE	= ≥2100	CFS
OVERTOPPING FREQUENCY	= ≥500	YRS
OVERTOPPING ELEVATION	= 185.0	FT
DATE OF SURVEY	= 3/22/12	
W.S. ELEVATION AT DATE OF SURVEY	= 181.10	FT

$$$$SYSTIME$$$$
$$$$USERNAME$$$$
$$$$DATE$$$$
$$$$FILENAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
B-5132	X-2



8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-5132	X-3

PERMIT SHEET 5 OF 6

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END PROJECT –L– STA. 16+50.00

WETLAND BOUNDARY | EXISTING R/W | EXISTING R/W | WETLAND BOUNDARY

185

0.047 | 0.003

185.88

16+50.00

WETLAND BOUNDARY | EXISTING R/W | EXISTING R/W | WETLAND BOUNDARY

185

4:1 | 0.029 | 0.020

S.S. 185.38 | 185.90 | S.S. 185.68

16+00.00

WETLAND BOUNDARY | EXISTING R/W | EXISTING R/W | WETLAND BOUNDARY

185

4:1 | 0.020 | 0.020 | 4:1

S.S. 185.48 | 185.91 | S.S. 185.73

15+50.00

WETLAND BOUNDARY | EXISTING R/W | EXISTING R/W | WETLAND BOUNDARY

185

4:1 | 0.020 | 0.020 | 4:1

S.S. 184.84 | 186.04 | S.S. 185.42

15+00.00

PROPOSED R/W | WETLAND BOUNDARY | WETLAND BOUNDARY | PROPOSED R/W

185

3:1 | 0.020 | 0.020 | 3:1

186.20 | S.S. 184.56

14+46.25

END BRIDGE –L– STA. 14+46±

WETLAND BOUNDARY | PROPOSED R/W | PROPOSED R/W

185

0.020 | 0.020

180

174.31

175

14+00.00

–L–

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2/28/2013
10:07:09
J:\projects\B5132_hyd_prm_xpl.dgn
USER:jhefner

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND 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)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1												
	-L_ 12+26 Lt.	1@45', 1@50', 1@25', 21" Cored Slab	< 0.01			0.02						
	-L- 13+35 Lt.											
2												
	-L- 12+13 Rt.	1@45', 1@50', 1@25', 21" Cored Slab	< 0.01			0.03						
	-L- 13+36 Rt											
3												
	-L- 14+28 Rt.	1@45', 1@50', 1@25', 21" Cored Slab	< 0.01			0.02						
	-L- 14+90 Rt.											
4												
	-L- 14+33 Lt.	1@45', 1@50', 1@25', 21" Cored Slab	< 0.01			0.02						
	-L- 14+77 Lt.											
TOTALS*:			< 0.01			0.08				0	0	0

*Rounded totals are sum of actual impacts

NOTES:
Surface Water Impacts Due to Bridge Piers:

Pier #1 = 49.5 sq. ft
Pier #2 = 49.5 sq. ft

Total Impact = 99 sq. ft (0.0023 Ac.)

ATN Revised 3/12/13

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

HOKE COUNTY
BRIDGE #37 ON SR 1436
OVER RAFT SWAMP

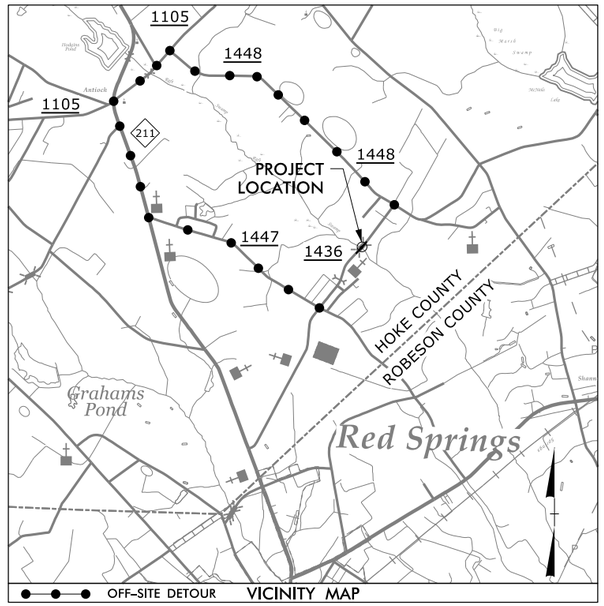
SHEET 6 OF 6

SHT OF

09/08/69

TIP PROJECT: B–5132

CONTRACT:



ROW PLANS

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HOKE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B–5132	1	

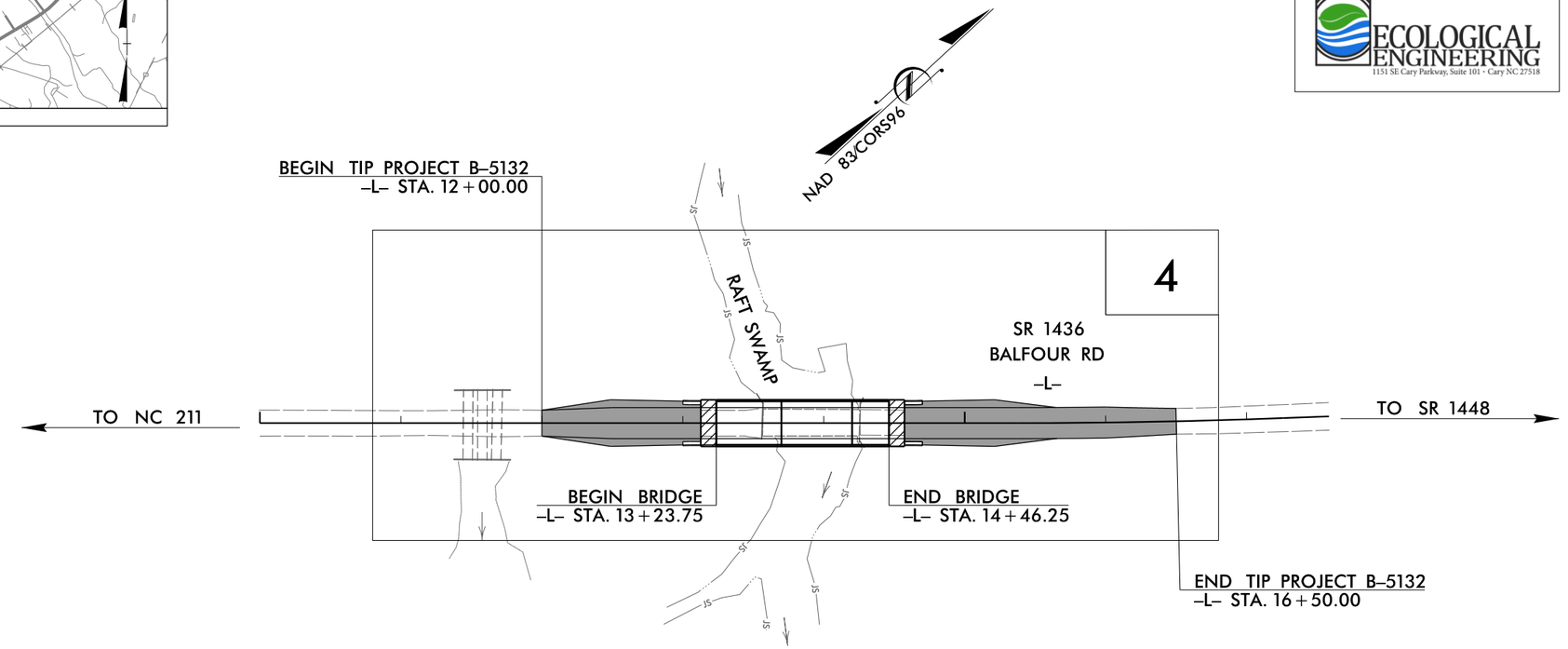
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42291.1.1	BRZ–1436(2)	PE
42291.2.1	BRZ–1436(2)	R/W & UTILITIES

LOCATION: ***BRIDGE NO. 37 OVER RAFT SWAMP ON SR 1436 (BALFOUR RD)***

TYPE OF WORK: ***GRADING, PAVING, DRAINAGE, AND STRUCTURE***

STEWART
421 FAYETTEVILLE ST, STE 400
RALEIGH, NC 27601
T 919.380.8750
Firm License #: C-1051
www.stewartinc.com
PROJECT #:B12002

ECOLOGICAL ENGINEERING
1151 SE Cary Parkway, Suite 101 · Cary NC 27518



THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2013 = 960
ADT 2033 = 1730
DHV = 13%
D = 60%
T = 6% *
* (TTST 2% + DUAL 4%)
V = 60 MPH
CLASS = RURAL LOCAL

SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B–5132	=	0.062 mi.
LENGTH STRUCTURE TIP PROJECT B–5132	=	0.023 mi.
TOTAL LENGTH TIP PROJECT B–5132	=	0.085 mi.

Prepared in the Office of:
STEWART
For
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 15, 2013

LETTING DATE:
FEBRUARY 18, 2014

BEN CRAWFORD, PE
PROJECT ENGINEER

JONATHAN HEFNER, PE
PROJECT DESIGN ENGINEER

BRENDA L. MOORE, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

2/15/2013
I:\Roadway\Proj\B5132_rdy_tsh.dgn
USER:jhefner

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
B-5132	1-B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H–Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

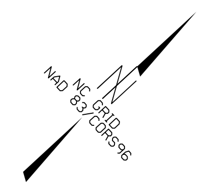
SURVEY CONTROL SHEET B-5132

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101	BL-101	406500.6270	1948806.9970	184.23	10+08.01	15.31 RT
102	BL-102	406750.7380	1949037.3290	185.45	13+48.03	15.31 RT
103	BL-103	407048.4000	1949305.7640	185.29	17+48.30	15.53 RT

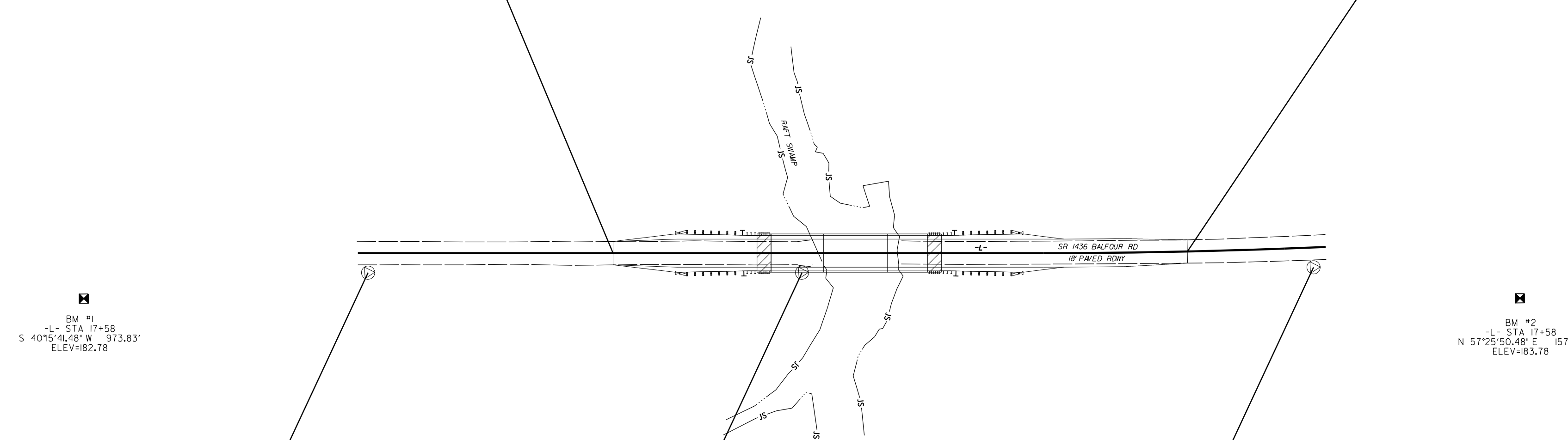
BM1 ELEVATION = 182.78
N 406323 E 1948671
L STATION 17+58.00
S 40°15'41.48" W DIST 973.83
BM1

BM2 ELEVATION = 183.78
N 407151 E 1949433
L STATION 17+58.00
N 57°25'50.48" E DIST 157.46
BM2



LOCALIZED PROJECT COORDINATES
-L- STA. 12+00.00 BEGIN TIP PROJECT B-5132
N = 406652.2198
E = 1948925.7924

LOCALIZED PROJECT COORDINATES
-L- STA. 16+50.00 END TIP PROJECT B-5132
N = 406984.0866
E = 1949229.6961



NCDOT BASELINE STATION "BL-101"
LOCALIZED PROJECT COORDINATES
N = 406500.6270
E = 1948806.9970

NCDOT BASELINE STATION "BL-102"
LOCALIZED PROJECT COORDINATES
N = 406750.7380
E = 1949037.3290

NCDOT BASELINE STATION "BL-103"
LOCALIZED PROJECT COORDINATES
N = 407048.4000
E = 1949305.7640

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5132-1"
WITH NAD 83/CORS96 STATE PLANE GRID COORDINATES OF
NORTHING: 408076.507(ft) EASTING: 1951659.945(ft)
ELEVATION: 199.16(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999889752
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5132-1" TO -L- STATION 12+00.00 IS S62°29'02.0"W 3082.89'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:*
   HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B5132_LS_CONTROL.TXT

   SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

⊙ *INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.*
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

6/2/99
2/15/2013
...\b5132_ls_1c.dgn
USER: bhefner

6/2/99

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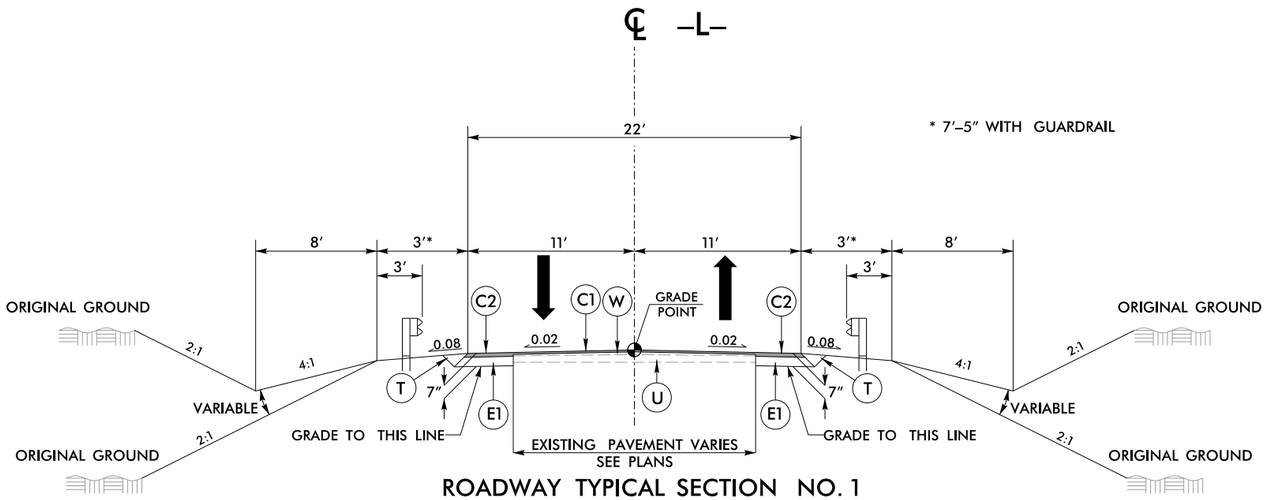
ECOLOGICAL ENGINEERING
1101 SE Cary Parkway, Suite 101 • Cary NC 27518

PROJECT REFERENCE NO.	SHEET NO.
B-5132	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

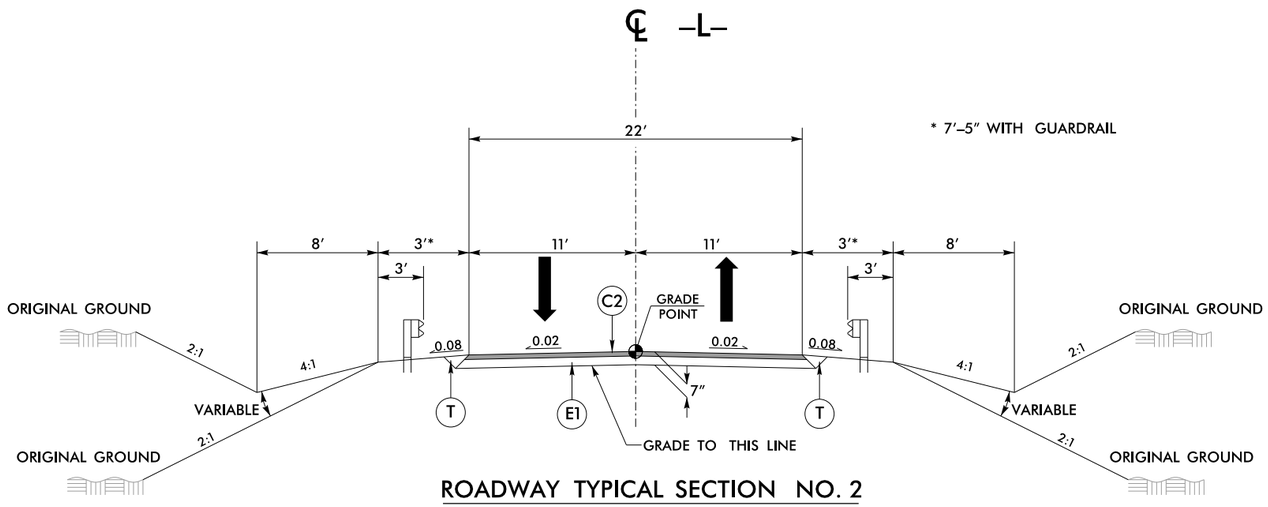
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



ROADWAY TYPICAL SECTION NO. 1

USE ROADWAY TYPICAL SECTION NO. 1
–L– STA. 12+50.00 TO –L– STA. 12+70.00
–L– STA. 15+20.00 TO –L– STA. 16+00.00

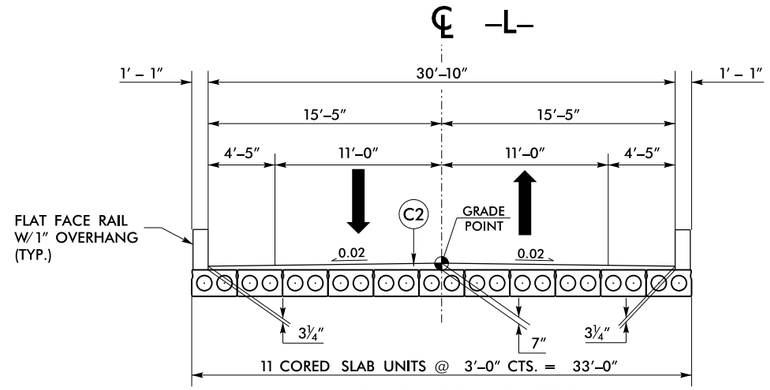
NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1 –L– STA. 12+00.00 TO –L– STA. 12+50.00
TRANSITION FROM TYPICAL SECTION NO. 1 TO EXISTING –L– STA. 16+00.00 TO –L– STA. 16+50.00



ROADWAY TYPICAL SECTION NO. 2

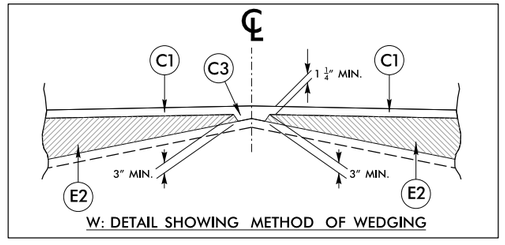
USE ROADWAY TYPICAL SECTION NO. 2

–L– STA. 12+70.00 TO –L– STA. 13+23.75 (BEGIN BRIDGE)
–L– STA. 14+46.25 (END BRIDGE) TO –L– STA. 15+20.00



BRIDGE TYPICAL SECTION

USE BRIDGE TYPICAL SECTION
–L– STA. 13+23.75 TO –L– STA. 14+46.25
ASSUMED BRIDGE TYPE = CORED SLAB



W: DETAIL SHOWING METHOD OF WEDGING

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 1¼″ ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2½″ ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½″ IN DEPTH.
E1	PROP. APPROX. 4½″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3″ IN DEPTH OR GREATER THAN 5½″ IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING (SEE STANDARD WEDGING DETAIL)

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

2/15/2013
J:\Roadway\Proj\B5132_rdy_typ.dgn
jlsellars

COMPUTED BY: JCH DATE: 8-17-12
CHECKED BY: BRC DATE: 8-17-12

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
B-5132	3-A

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ECOLOGICAL ENGINEERING
1151 SE Cary Parkway, Suite 101 - Cary NC 27518

Note:
Approximate quantities only. Unclassified Excavation, Borrow Excavation, Shoulder Borrow, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
-L- STA. 12+00.00	-L- STA. 13+23.75	11	30	19	
-L- STA. 14+46.25	-L- STA. 16+50.00	6	60	54	
PROJECT SUBTOTAL:		17	90	73	
EST 5% TO REPLACE TOP SOIL ON BORROW PIT				4	
PROJECT TOTAL:		17		77	
SAY:		20		90	
PER GEOTECH RECOMMENDATIONS, ESTIMATE 100 CY OF UNDERCUT EXCAVATION					
PER GEOTECH RECOMMENDATIONS, ESTIMATE 100 SY OF GEOTEXTILE FOR SOIL STABILIZATION					
PER GEOTECH RECOMMENDATIONS, ESTIMATE 100 CY OF SELECT GRANULAR MATERIAL					

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LOCATION	LENGTH
-L-	13+00.00	13+12.75	LT	12.75
-L-	13+00.00	13+12.75	RT	12.75
-L-	14+57.25	14+70.00	LT	12.75
-L-	14+57.25	14+70.00	RT	12.75
			TOTAL:	51
			SAY:	51

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
-L-	12+70.00	13+57.00	CL	177
-L-	14+25.00	15+20.00	CL	188
			TOTAL:	366
			SAY:	370

Note:
Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard and Specifications For Roads and Structures, Section 300-5".

SUB-REGIONAL & REGIONAL
LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION (SIZE / THICKNESS OR GAUGE)	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
13+05.00	RT	0401		186.58															
13+05.00	RT	0401	0402		183.58	183.0			16										
13+05.00	LT	0403		186.58															
13+05.00	LT	0403	0404		183.58	182.0			20										
14+65.00	RT	0405		186.68															
14+65.00	RT	0405	0406		183.68	183.0			20										
14+65.00	LT	0407		186.68															
14+65.00	LT	0407	0408		183.68	182.0			16										
						TOTALS			72										

STATION	C.S. PIPE 12" (.064)	15" (.064)	18" (.064)	24" (.064)	36" (.079)	42" (.109)	48" (.109)	R.C. PIPE (CLASS III) 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE (CLASS IV) 12"	15"	18"	24"	30"	36"	42"	48"
13+05.00																						
13+05.00																						
13+05.00																						
13+05.00																						
14+65.00																						
14+65.00																						
14+65.00																						
14+65.00																						

STATION	**" R. C. PIPE (CLASS V)	**" R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	**" R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. *FT. A: 5.0' THRU 10.0'	B: 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G		CONCRETE TRANSITIONAL SECTION CATCH BASIN	DROP INLET	TRAFFIC BEARING G.D.I. STD. 840.35	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29									REMARKS
13+05.00								1										1	1									
13+05.00																												
13+05.00								1										1	1									
13+05.00																												
14+65.00								1										1	1									
14+65.00																												
14+65.00								1										1	1									
14+65.00																												
TOTALS								4										4	4									

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	SHOP CURVED	DOUBLE FACED	WARRANT POINT APPROACH END	TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	TRAILING END	W APPROACH END	TRAILING END	ANCHORS XI MOD	XI	GRAU 350	M-350	III	CAT-1	VI MOD	BIC	AT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
-L-	12+48.75	BRIDGE (13+23.75)	LT	75.00					4'-5"	7'-5"		56.25		1.125			1		1											
-L-	12+48.75	BRIDGE (13+23.75)	RT	75.00					4'-5"	7'-5"	56.25		1.125				1		1											
-L-	BRIDGE (14+46.25)	15+21.25	LT	75.00					4'-5"	7'-5"	56.25		1.125				1		1											
-L-	BRIDGE (14+46.25)	15+21.25	RT	75.00					4'-5"	7'-5"		56.25		1.125			1		1											
			SUBTOTAL	300													4		4											

LESS DEDUCTIONS FOR ANCHOR UNITS 4 TYPE III @ 18.75'	-75	
4 TYPE GRAU-350 @ 50'	-200	
TOTAL	25	
SAY	25	

ADDITIONAL GUARDRAIL POSTS = 3

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

PROJECT REFERENCE NO.	SHEET NO.
B-5132	4

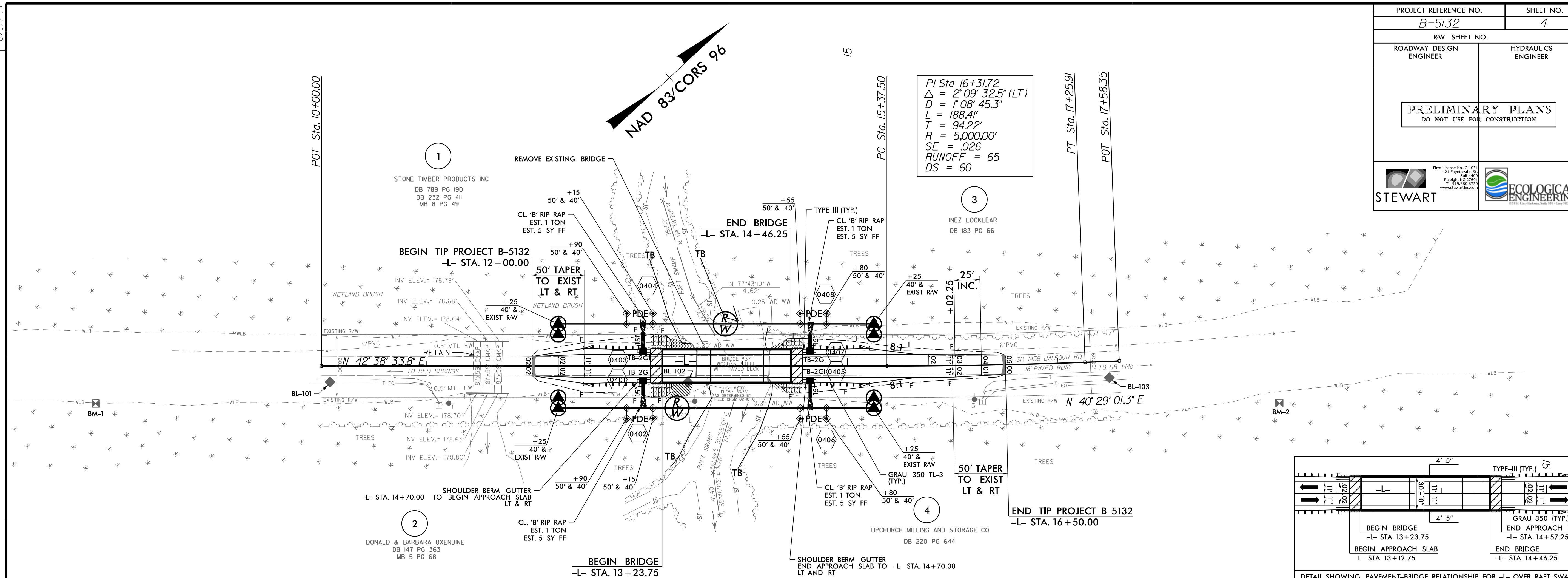
R/W SHEET NO.

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

STEWART

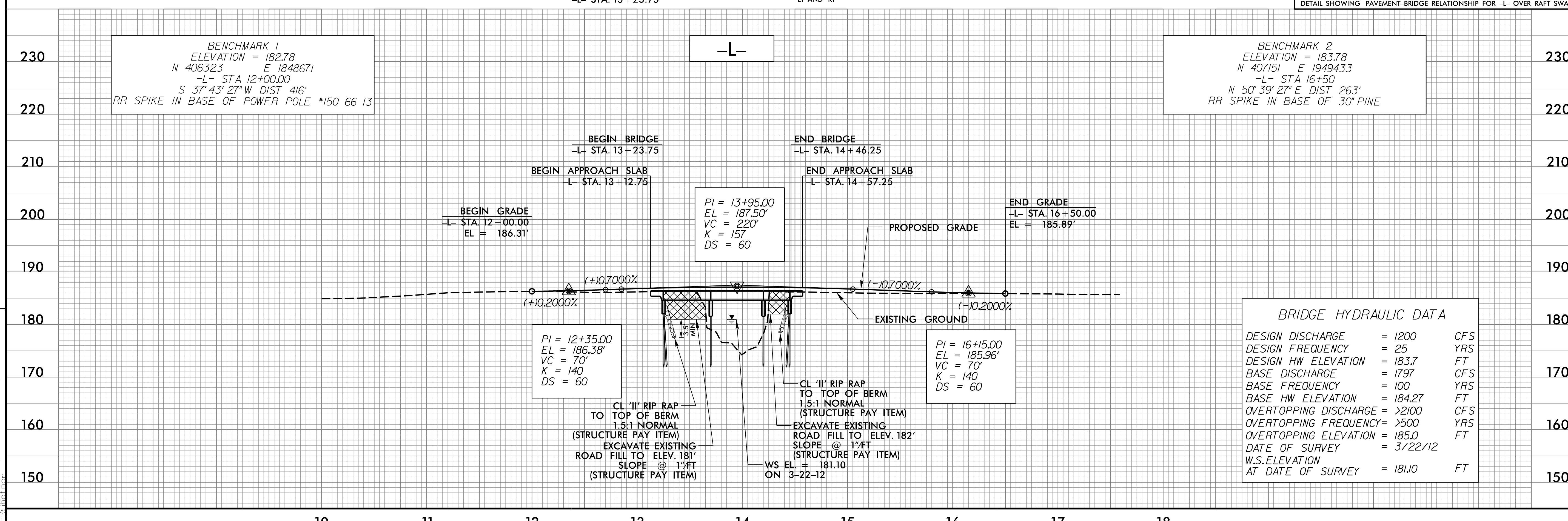
ECOLOGICAL ENGINEERING



BENCHMARK 1
ELEVATION = 182.78
N 406323 E 1848671
-L- STA 12+00.00
S 37° 43' 27" W DIST 416'
RR SPIKE IN BASE OF POWER POLE #150 66 13

-L-

BENCHMARK 2
ELEVATION = 183.78
N 407151 E 1949433
-L- STA 16+50
N 50° 39' 27" E DIST 263'
RR SPIKE IN BASE OF 30" PINE



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	1200	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	183.7	FT
BASE DISCHARGE	=	1797	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	184.27	FT
OVERTOPPING DISCHARGE	=	>2100	CFS
OVERTOPPING FREQUENCY	=	>500	YRS
OVERTOPPING ELEVATION	=	185.0	FT
DATE OF SURVEY	=	3/22/12	
W.S. ELEVATION AT DATE OF SURVEY	=	181.10	FT

REVISIONS

8/17/99

2/15/2013
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PROJECT REFERENCE NO.	SHEET NO.
B-5132	X-1
R/W SHEET NO.	

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5131 SE Cary Parkway, Suite 107 • Cary NC, 27518

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8/17/99

REVISIONS

CROSS SECTION SUMMARY

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

STATION L	UNCL. EXC. (CU. YD.)	EMBT. (CU. YD.)
12+00.00	–	–
12+50.00	5	3
13+00.00	6	11
13+23.75	0	11
14+46.25	–	–
15+00.00	0	38
15+50.00	1	10
16+00.00	3	2
16+50.00	2	0

Note:
Approximate quantities only. Unclassified Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

CROSS SECTION INDEX

SHEET	BEGIN STATION	END STATION
X–2	12+00.00	13+50.00
X–3	14+00.00	16+50.00

2/15/2013
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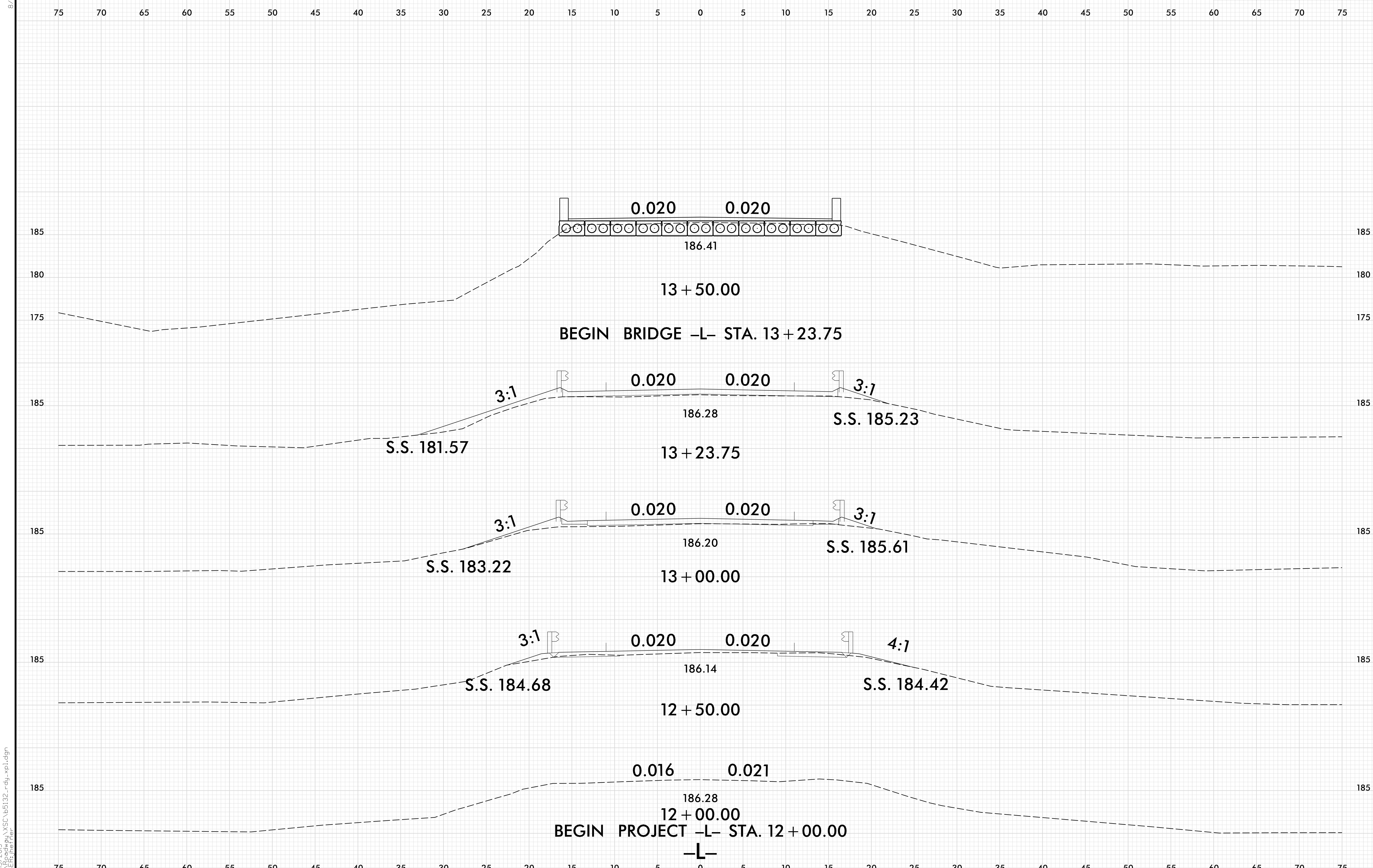
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-5132	X-2



8/23/99

2/15/2013
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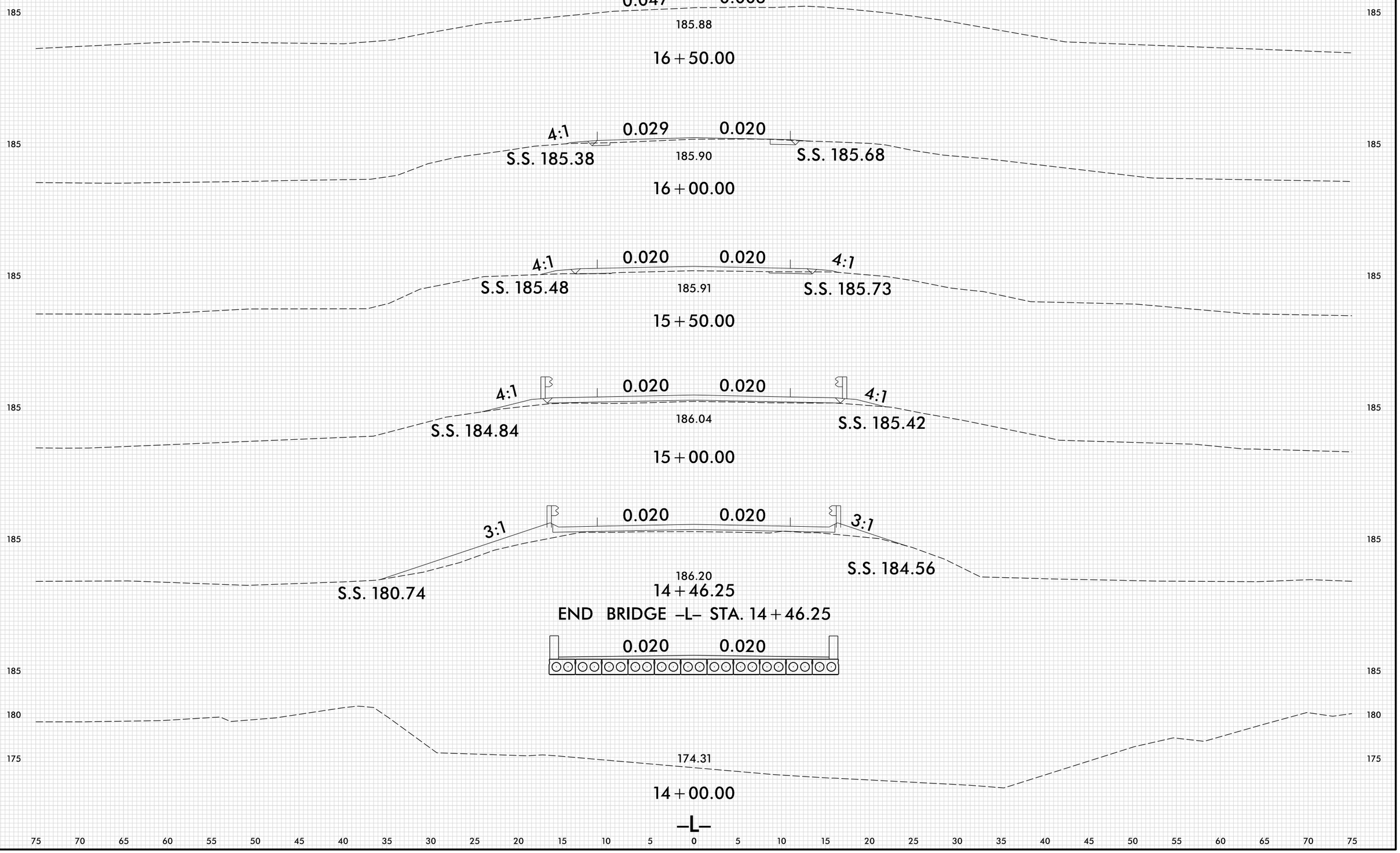
USER: jhefner

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B–5132	X–3

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

END PROJECT –L– STA. 16 + 50.00



END BRIDGE –L– STA. 14 + 46.25

–L–

2/15/2013
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CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	**B-5132**
W.B.S. No.	**42291.1.1**
Federal Project No.	**BRZ-1436(2)**

A. Project Description:

The purpose of this project is to replace Hoke County Bridge No. 37 on SR 1436 over Raft Swamp. Bridge No. 37 is 69 feet long. The replacement structure will be a bridge approximately 140 feet long providing a minimum 27 feet 10 inches clear deck width. The bridge will include two 11-foot lanes and 2-foot 11-inch offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately the same as the existing structure.

The approach roadway will extend approximately 90 feet from the south end of the new bridge and 90 feet from the north end of the new bridge. The approaches will be widened to include a 22-foot pavement width providing two 11-foot lanes. Three-foot grass shoulders will be provided on each side (6-foot shoulders where guardrail is included). The roadway will be designed as a Rural Local Route using Subregional Tier guidelines with a 60 mile per hour design speed.

Traffic will be detoured off-site during construction (see Figure 1).

B. Purpose and Need:

NCDOT Bridge Management Unit records indicate Bridge No. 37 has a sufficiency rating of 18.7 out of a possible 100 for a new structure.

The bridge is considered structurally deficient due to structural evaluation appraisal of 2 out of 9 according to Federal Highway Administration (FHWA) standards and therefore eligible for FHWA's Highway Bridge Program. The bridge also meets the criteria for functionally obsolete due to deck geometry of 2 out of 9.

The superstructure and substructure of Bridge No. 37 have timber elements that are sixty-one years old. Timber components have a typical life expectancy between 40 to 50 years due to the natural deterioration rate of wood. Rehabilitation of a timber structure is generally practical only when a few elements are damaged or prematurely deteriorated. However, past a certain degree of deterioration, most timber elements become impractical to maintain and upon eligibility are programmed for replacement. Timber components of Bridge No. 37 are experiencing an increasing degree of deterioration that can no longer be addressed by reasonable maintenance activities; therefore the bridge is approaching the end of its useful life.

C. Proposed Improvements:

Circle one or more of the following Type II improvements which apply to the project:

1. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing).

   a. Restoring, Resurfacing, Rehabilitating, and Reconstructing pavement (3R and 4R improvements)
   b. Widening roadway and shoulders without adding through lanes
   c. Modernizing gore treatments
   d. Constructing lane improvements (merge, auxiliary, and turn lanes)
   e. Adding shoulder drains
   f. Replacing and rehabilitating culverts, inlets, and drainage pipes, including safety treatments
   g. Providing driveway pipes
   h. Performing minor bridge widening (less than one through lane)
   i. Slide Stabilization
   j. Structural BMP's for water quality improvement

2. Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting.

   a. Installing ramp metering devices
   b. Installing lights
   c. Adding or upgrading guardrail
   d. Installing safety barriers including Jersey type barriers and pier protection
   e. Installing or replacing impact attenuators
   f. Upgrading medians including adding or upgrading median barriers
   g. Improving intersections including relocation and/or realignment
   h. Making minor roadway realignment
   i. Channelizing traffic
   j. Performing clear zone safety improvements including removing hazards and flattening slopes
   k. Implementing traffic aid systems, signals, and motorist aid
   l. Installing bridge safety hardware including bridge rail retrofit

3. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.

   a. Rehabilitating, reconstructing, or replacing bridge approach slabs
   b. Rehabilitating or replacing bridge decks
   c. Rehabilitating bridges including painting (no red lead paint), scour repair, fender systems, and minor structural improvements
   (d.) Replacing a bridge (structure and/or fill)

4. Transportation corridor fringe parking facilities.

5. Construction of new truck weigh stations or rest areas.

6. Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.

7. Approvals for changes in access control.

8. Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.

9. Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.

10. Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.

11. Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.

12. Acquisition of land for hardship or protective purposes, advance land acquisition loans under section 3(b) of the UMT Act. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed.

13. Acquisition and construction of wetland, stream and endangered species mitigation sites.

14. Remedial activities involving the removal, treatment or monitoring of soil or groundwater contamination pursuant to state or federal remediation guidelines.

D. Special Project Information:

The estimated costs, based on 2012 prices, are as follows:

Structure	$ 293,000
Roadway Approaches	$ 165,000
Structure Removal	$ 21,000
Misc. & Mob.	$ 77,000
Eng. & Contingencies	$ 94,000
Total Construction Cost	$ 650,000
Right-of-way Costs	$ 22,000
Right-of-way Utility Costs	$ 69,000
Total Project Cost	$ 741,000

Estimated Traffic:

Current	-	900 vpd
Year 2035	-	1800 vpd
TTST	-	2%
Dual	-	4%

Accidents: Traffic Engineering has evaluated a recent three year period and found two accidents occurring in the vicinity of the project. None were associated with the geometry of the bridge or its approach roadways.

Design Exceptions: There are no anticipated design exceptions for this project.

Pedestrian and Bicycle Accommodations: This portion of SR 1436 is not a part of a designated bicycle route nor is it listed in the Transportation Improvement Program (TIP) as a bicycle project. Neither permanent nor temporary bicycle or pedestrian accommodations are required for this project.

Bridge Demolition: Bridge No. 37 is constructed entirely of timber and steel and should be possible to remove with no resulting debris in the water based on standard demolition practices.

Alternatives Discussion:

No Build – The no build alternative would result in eventually closing the road which is unacceptable given the volume of traffic served by SR 1436.

Rehabilitation – The bridge was constructed in 1951 and the timber materials within the bridge are reaching the end of their useful life. Rehabilitation would require replacing the timber components which would constitute effectively replacing the bridge.

Offsite Detour – Bridge No. 37 will be replaced on the existing alignment. Traffic will be detoured offsite (see Figure 1) during the construction period. NCDOT Guidelines for Evaluation of Offsite Detours for Bridge Replacement Projects considers multiple project variables

beginning with the additional time traveled by the average road user resulting from the offsite detour. The offsite detour for this project would include SR 1448, SR 1105, NC 211 and SR 1447. The majority of traffic on the road is through traffic. The detour for the average road user would result in 6 minutes additional travel time (4.7 miles additional travel). Up to a 12-month duration of construction is expected on this project.

Based on the Guidelines, the criteria above indicate that an offsite detour is preferred but has a long additional travel time. In this case, Hoke County Emergency Services along with Hoke County Schools Transportation have indicated that an offsite detour is acceptable. NCDOT Division 8 has indicated that the condition of all roads, bridges and intersections along the detour are acceptable without improvement and concur with the use of the detour.

Onsite Detour – An onsite detour was not evaluated due to the presence of an acceptable offsite detour.

Staged Construction – Staged construction was not considered because of the availability of an acceptable offsite detour.

New Alignment – Given that the alignment for SR 1436 is acceptable, a new alignment was not considered as an alternative.

Other Agency Comments:

The **N.C. Wildlife Resource Commission** and **U.S. Fish & Wildlife Service** in standardized letters provided a request that they prefer any replacement structure to be a spanning structure.

Response: NCDOT will be replacing the existing bridge with a new bridge.

The **Hoke County Planning Department**, the **N.C. Division of Water Quality**, and **the Army Corps of Engineers**, had no special concerns for this project.

Public Involvement:

A newsletter has been sent to all those living along SR 1436 between the intersection with SR 1447 and the intersection with SR 1448. No comments have been received to date.

Based on lack of responses to the newsletter, a Citizen's Informational Workshop was determined unnecessary.

E. Threshold Criteria

The following evaluation of threshold criteria must be completed for Type II actions

ECOLOGICAL		YES	NO
(1)	Will the project have a substantial impact on any unique or important natural resource?		x
(2)	Does the project involve habitat where federally listed endangered or threatened species may occur?	x	
(3)	Will the project affect anadramous fish?		x
(4)	If the project involves wetlands, is the amount of permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated?	x	
(5)	Will the project require the use of U. S. Forest Service lands?		x
(6)	Will the quality of adjacent water resources be adversely impacted by proposed construction activities?		x
(7)	Does the project involve waters classified as Outstanding Resources Waters (ORW) and/or High Quality Waters (HQW)?		x
(8)	Will the project require fill in waters of the United States in any of the designated mountain trout counties?		x
(9)	Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?		x

PERMITS AND COORDINATION		YES	NO
(10)	If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)?		x
(11)	Does the project involve Coastal Barrier Resources Act resources?		x
(12)	Will a U. S. Coast Guard permit be required?		x
(13)	Could the project result in the modification of any existing regulatory floodway?	x	

(14)	Will the project require any stream relocations or channel changes?		X

SOCIAL, ECONOMIC, AND CULTURAL RESOURCES		YES	NO
(15)	Will the project induce substantial impacts to planned growth or land use for the area?		X
(16)	Will the project require the relocation of any family or business?		X
(17)	Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population?		X
(18)	If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor?	X	
(19)	Will the project involve any changes in access control?		X
(20)	Will the project substantially alter the usefulness and/or land use of adjacent property?		X
(21)	Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness?		X
(22)	Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)?	X	
(23)	Is the project anticipated to cause an increase in traffic volumes?		X
(24)	Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?	X	
(25)	If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility) and will all construction proposed in association with the bridge replacement project be contained on the existing facility?	X	
(26)	Is there substantial controversy on social, economic, or environmental grounds concerning the project?		X
(27)	Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?	X	
(28)	Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places?		X

(29)	Will the project affect any archaeological remains which are important to history or pre-history?		x
(30)	Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)?		x
(31)	Will the project result in any conversion of assisted public recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended?		x
(32)	Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the National System of Wild and Scenic Rivers?		x

F. Additional Documentation Required for Unfavorable Responses in Part E

Response to Question 2: Based on survey report, there is no suitable habitat for Saint Francis' satyr (surveyed July 22, 2009). Re-surveys were done for American chaffseed, Michaux's sumac, and rough-leaved loosestrife on June 20, 2011. The Biological Conclusions remain "No Effect" for all three species.

Response to Question 13: Hoke County is a participant in the National Flood Insurance Regular Program. Raft Swamp is included in a detailed flood study, having a regulated 100-year floodway. The Hydraulic Unit will coordinate with the Federal Emergency Management Agency (FEMA) to determine if a Conditional Letter of Map Revision (CLOMR) and a subsequent final Letter of Map Revision (LOMR) are required for the project. If required, the Division will submit sealed as-built construction plans to the Hydraulics Unit upon project completion certifying the project was built as shown on construction plans.

G. CE Approval

TIP Project No.	**B-5132**
W.B.S. No.	**42291.1.1**
Federal Project No.	**BRZ-1436(2)**

Project Description:

The purpose of this project is to replace Hoke County Bridge No. 37 on SR 1436 over Raft Swamp. Bridge No. 37 is 69 feet long. The replacement structure will be a bridge approximately 140 feet long providing a minimum 27 feet 10 inches clear deck width. The bridge will include two 11-foot lanes and 2-foot 11-inch offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately the same as the existing structure.

The approach roadway will extend approximately 90 feet from the south end of the new bridge and 90 feet from the north end of the new bridge. The approaches will be widened to include a 22-foot pavement width providing two 11-foot lanes. Three-foot grass shoulders will be provided on each side (6-foot shoulders where guardrail is included). The roadway will be designed as a Rural Local Route using Subregional Tier guidelines with a 60 mile per hour design speed.

Traffic will be detoured off-site during construction (see Figure 1).

Categorical Exclusion Action Classification:

_____ TYPE II(A)
__x__ TYPE II(B)

Approved:

5/7/12 — Date
Bridge Project Development Engineer
Project Development & Environmental Analysis Unit

5/7/12 — Date
Project Engineer
Project Development & Environmental Analysis Unit

5/7/12 — Date
Project Planning Engineer
Project Development & Environmental Analysis Unit

For Type II(B) projects only:

5/10/12 — Date
for John F. Sullivan, III, PE, Division Administrator
Federal Highway Administration

PROJECT COMMITMENTS:

Hoke County
Bridge No. 37 on SR 1436
Over Raft Swamp
Federal Aid Project No. BRZ-1436(2)
W.B.S. No. 42291.1.1
T.I.P. No. B-5132

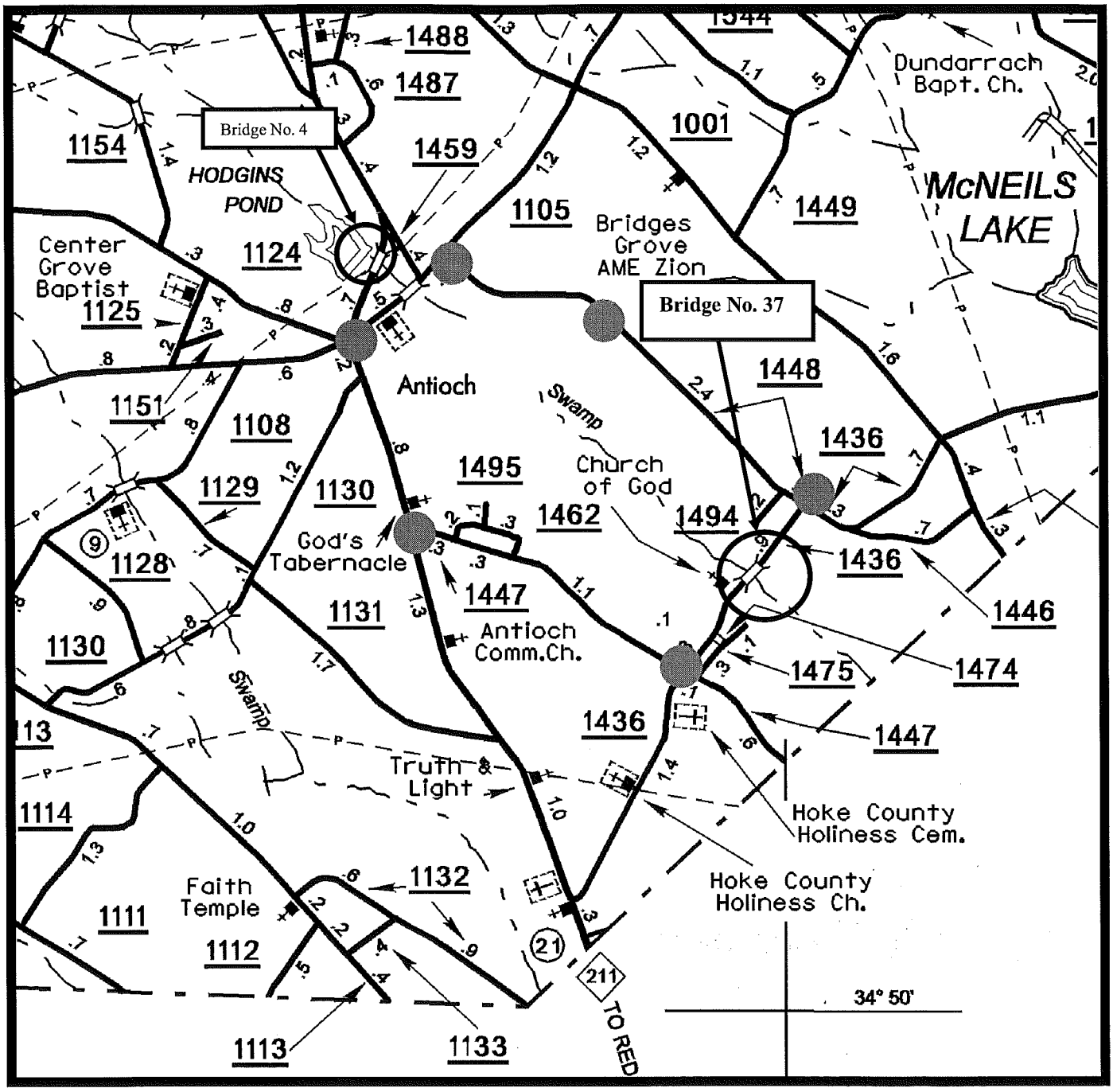
Division Eight Construction, Resident Engineer's Office – Offsite Detour
In order to have time to adequately reroute school busses, Hoke County Schools will be contacted at (910) 875-3585 at least one month prior to road closure.

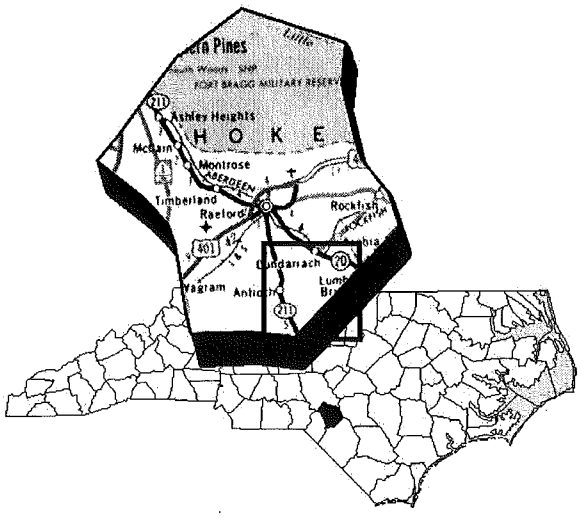
Hoke County Emergency Services will be contacted at (910) 875-1767 at least one month prior to road closure to make the necessary temporary reassignments to primary response units.

Project Development Environmental Analysis Unit/ Roadway Unit – Schedules
The current Let schedules for B-5132 and B-5127 are February 2014 and February 2015 respectively. The projects need to remain staggered because they share the same detour route. B-5132 construction will need to be complete before the start of B-5127 construction.

Hydraulic Unit – FEMA Coordination
The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of 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).

Division Construction – FEMA
This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

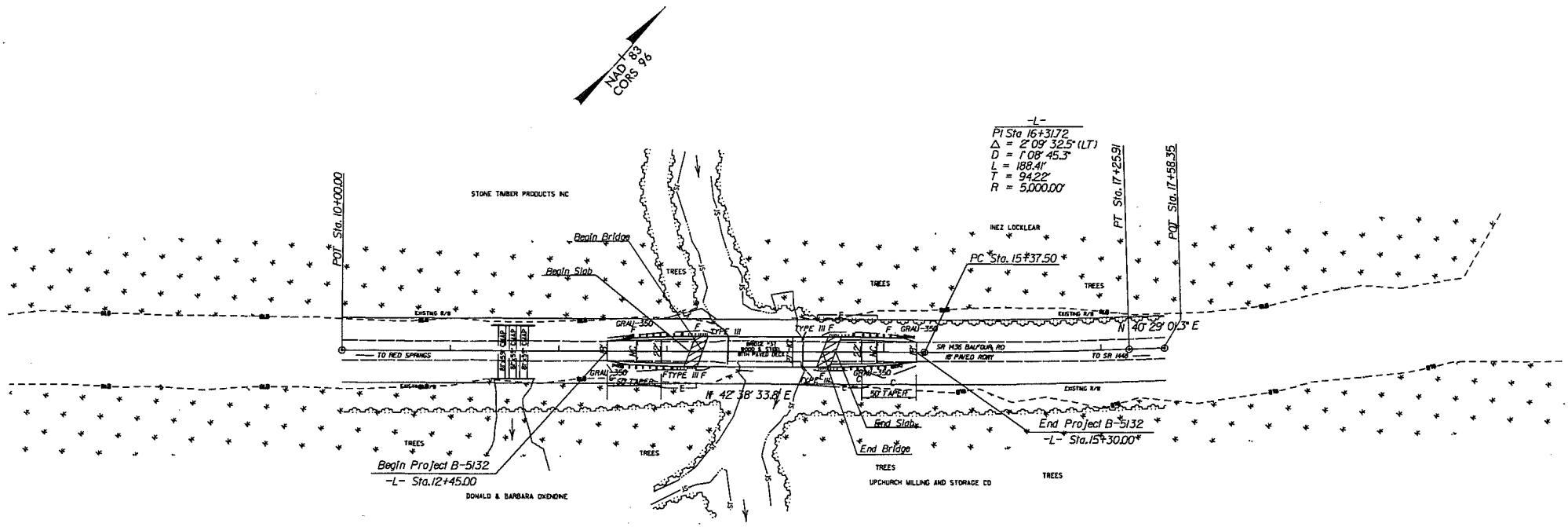


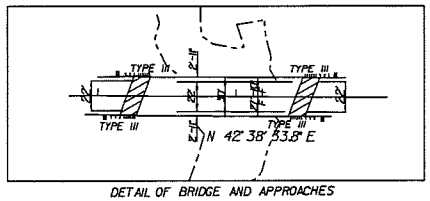


NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS BRANCH

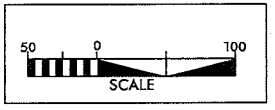
HOKE COUNTY
REPLACE BRIDGE NO. 37 ON SR 1436
OVER RAFT SWAMP
B-5132

Figure 1





DETAIL OF BRIDGE AND APPROACHES



NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT &
ENVIRONMENTAL ANALYSIS BRANCH

HOKE COUNTY

REPLACE BRIDGE NO. 37 ON SR 1436
OVER RAFT SWAMP

B-5132

FIGURE 2

Bridge Construction CFY 2013-2014

SHPO Number	TIP	Project	County	Division	Project Engineer	Archaeological Survey	Architectural Survey
ER 08-2630	B-5127	Bridge 4 on NC 211 over Raft Swamp	Hoke	8	D. Brown	NO	NO
ER 08-2632	B-5132	Bridge 37 on SR 1436 over Raft Swamp	Hoke	8	D. Brown	NO	NO

A - TM ARC-15 11/25/08

S. (NC) 11/7/08 CES

Peter B Sandbach 11/27/08

Dec 12/31/08

NOV 13 2008