



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

EUGENE A. CONTI, JR.  
SECRETARY

May 24, 2012

U. S. Army Corps of Engineers  
Regulatory Field Office  
3331 Heritage Trade Drive, Suite 105  
Wake Forest, NC 27587

**ATTN:** Mr. Andy Williams  
NCDOT Division 7 Coordinator

**SUBJECT:** Application for Section 404 Nationwide Permits 13, 23, and 33, Section 401 Water Quality Certification, and Jordan Lake Watershed Riparian Buffer Authorization for the replacement of Bridge No. 13 over Troublesome Creek on SR 2344 (Haynes Road), Rockingham County, North Carolina. Federal Aid Project No. BRZ – 2344 (1), TIP No. B-4864.

Debit \$240.00 from WBS Element No. 41553.1.1

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 13 over Troublesome Creek on SR 2344 (Haynes Road) in Rockingham County. The project consists of replacing the existing one-span, 41-foot long bridge with a 49.5-foot triple barrel precast reinforced concrete box culvert (RCBC) along the existing alignment. The dimensions of each barrel will be 12 feet wide by 14 feet high. The project will result in 50 linear feet of permanent jurisdictional stream impacts, 73 linear feet of bank stabilization impacts, and 108 linear feet of temporary jurisdictional stream impacts to Troublesome Creek.

Please find enclosed the Pre-Construction Notification (PCN) form, N.C. Ecosystem Enhancement Program (EEP) acceptance letter, Approved Jurisdictional Determination (Rapanos) Form, Stormwater Management Plan, permit drawings, buffer drawings, and roadway design plans for the above-referenced project. A Programmatic Categorical Exclusion (PCE) was completed for this project in May 2011 and distributed shortly thereafter. Additional copies are available upon request.

The proposed let date for this project is February 19, 2013, with a let review date of January 1, 2013. However, the let date may advance as additional funds become available.

**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](http://WWW.NCDOT.ORG)

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

A copy of this permit application will be posted on the NCDOT Website at:  
<http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html>.

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](mailto:jsmason@ncdot.gov) or (919) 707-6136.

Sincerely,



*for*

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

cc: NCDOT Permit Application Standard Distribution List



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:	<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 13 23 33 or General Permit (GP) number:		
1c. Has the NWP or GP number been verified by the Corps?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):		
<input checked="" type="checkbox"/> 401 Water Quality Certification – Regular <span style="margin-left: 100px;"><input type="checkbox"/> Non-404 Jurisdictional General Permit</span> <input type="checkbox"/> 401 Water Quality Certification – Express <span style="margin-left: 100px;"><input checked="" type="checkbox"/> Riparian Buffer Authorization</span>		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	For the record only for Corps Permit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

#### 2. Project Information

2a. Name of project:	Replacement of Bridge No. 13 over Troublesome Creek on SR 2344 (Haynes Rd)
2b. County:	Rockingham
2c. Nearest municipality / town:	Summerfield
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-4864

#### 3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	<i>not applicable</i>
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>
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:	jasmason@ncdot.gov

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

<b>B. Project Information and Prior Project History</b>	
<b>1. Property Identification</b>	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 36.2655 (DD.DDDDDD) Longitude: - 79.8894 (-DD.DDDDDD)
1c. Property size:	1.38 acres
<b>2. Surface Waters</b>	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Troublesome Creek
2b. Water Quality Classification of nearest receiving water:	WS-III NSW
2c. River basin:	Cape Fear
<b>3. Project Description</b>	
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 2344 is designated as a Rural Local Route. Land use within the vicinity includes Forested Land, Agriculture, and Low- and Medium-Density Residential.	
3b. List the total estimated acreage of all existing wetlands on the property: 0 acres	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 230 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 one-span, 41-foot long bridge with a 49.5-foot triple barrel precast reinforced concrete box culvert (RCBC) along the existing alignment. The dimensions of each barrel will be 12 feet wide by 14 feet high. An off-site detour will be utilized. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
<b>4. Jurisdictional Determinations</b>	
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: Site visit occurred on 05/29/2008. A JD Packet with Rapanos form was provided to USACE for site visit. JD Pending.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input type="checkbox"/> 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. Approved Jurisdictional Determination (Rapanos) Form included	
<b>5. Project History</b>	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	

<b>6. Future Project Plans</b>	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

<b>C. Proposed Impacts Inventory</b>						
<b>1. Impacts Summary</b>						
1a. Which sections were completed below for your project (check all that apply):						
<input type="checkbox"/> Wetlands <input checked="" type="checkbox"/> Streams - tributaries <input checked="" type="checkbox"/> Buffers <input type="checkbox"/> Open Waters <input type="checkbox"/> Pond Construction						
<b>2. Wetland Impacts</b>						
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 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
<b>2g. Total wetland impacts</b>					0 Permanent 0 Temporary	
2h. Comments: No wetland impacts are associated with this project.						
<b>3. Stream Impacts</b>						
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 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	RCBC	Troublesome Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	20	50
Site 2 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	RCBC	Troublesome Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	20	108
Site 3 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stabilization	Troublesome Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	20	29
Site 4 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stabilization	Troublesome Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	20	44
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
<b>3h. Total stream and tributary impacts</b>						123 Perm 108 Temp
3i. Comments:						

**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 <input type="checkbox"/> P <input type="checkbox"/> T				
O2 <input type="checkbox"/> P <input type="checkbox"/> T				
O3 <input type="checkbox"/> P <input type="checkbox"/> T				
O4 <input type="checkbox"/> P <input type="checkbox"/> T				
<b>4f. Total open water impacts</b>				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								
<b>5f. Total</b>								

5g. Comments:

5h. Is a dam high hazard permit required?	<input type="checkbox"/> Yes <input type="checkbox"/> 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.

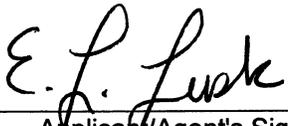
6a. Project is in which protected basin?			<input type="checkbox"/> Neuse Lake Watershed	<input type="checkbox"/> Tar-Pamlico	<input checked="" type="checkbox"/> Other: Jordan
			<input type="checkbox"/> Catawba	<input type="checkbox"/> Randleman	
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Road Crossing	Troublesome Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6432	3024
B2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
<b>6h. Total buffer impacts</b>				<b>6432</b>	<b>3024</b>
6i. Comments:					

<b>D. Impact Justification and Mitigation</b>		
<b>1. Avoidance and Minimization</b>		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.  Since there are no special aquatic resources such as trout or mussels present and because a culvert is less than half the cost of a bridge, has twice the life expectancy, and requires virtually no maintenance in comparison to a bridge, a culvert was determined to be the preferred structure type at this location. A culvert was also determined to be an adequate structure from a hydraulics standpoint; an off-site detour will be used; Class I rip rap will be installed at the proposed culvert inlet/outlet to minimize erosion to the stream banks; a 4-foot high sill will be used at the entrance of the outer southern barrel to promote the retention of natural bed material and the formation of a low flow channel within the middle barrel of the proposed culvert; rip rap-lined lateral "V" ditches will be used in each quadrant of the project to consolidate stormwater run-off and reduce its velocity prior to entering Troublesome Creek. The ditches tie into the Class I rip rap adjacent to culvert.		
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; Design Standards in Sensitive Watersheds will be employed.		
<b>2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State</b>		
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, explain:	
2b. If yes, mitigation is required by (check all that apply):	<input type="checkbox"/> DWQ <input checked="" type="checkbox"/> Corps	
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input checked="" type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> Permittee Responsible Mitigation	
<b>3. Complete if Using a Mitigation Bank</b>		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
<b>4. Complete if Making a Payment to In-lieu Fee Program</b>		
4a. Approval letter from in-lieu fee program is attached.	<input checked="" type="checkbox"/> Yes	
4b. Stream mitigation requested:	50 @ 2:1 mitigation = 100 linear feet	
4c. If using stream mitigation, stream temperature:	<input checked="" type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> 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:		
<b>5. Complete if Using a Permittee Responsible Mitigation Plan</b>		
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?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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:				0
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: All buffer impacts are Allowable.				

<b>E. Stormwater Management and Diffuse Flow Plan (required by DWQ)</b>	
<b>1. Diffuse Flow Plan</b>	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments: See attached buffer permit drawings.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>2. Stormwater Management Plan</b>	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <input checked="" type="checkbox"/> DWQ 401 Unit
<b>3. Certified Local Government Stormwater Review</b>	
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):	<input type="checkbox"/> Phase II <input type="checkbox"/> NSW <input type="checkbox"/> USMP <input type="checkbox"/> Water Supply Watershed <input type="checkbox"/> Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>4. DWQ Stormwater Program Review</b>	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Coastal counties <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>5. DWQ 401 Unit Stormwater Review</b>	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
5b. Have all of the 401 Unit submittal requirements been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A

<b>F. Supplementary Information</b>	
<b>1. Environmental Documentation (DWQ Requirement)</b>	
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>2. Violations (DWQ Requirement)</b>	
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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2b. Is this an after-the-fact permit application?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):	
<b>3. Cumulative Impacts (DWQ Requirement)</b>	
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.	
<b>4. Sewage Disposal (DWQ Requirement)</b>	
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	

<b>5. Endangered Species and Designated Critical Habitat (Corps Requirement)</b>		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input checked="" type="checkbox"/> Raleigh	<input type="checkbox"/> 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		
<b>6. Essential Fish Habitat (Corps Requirement)</b>		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
<b>7. Historic or Prehistoric Cultural Resources (Corps Requirement)</b>		
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)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
<b>8. Flood Zone Designation (Corps Requirement)</b>		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with 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	 _____ Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	24 <del>05/22</del> 12 Date



May 15, 2012

Mr. Gregory J. Thorpe, Ph.D.  
Manager, Project Development and Environmental Analysis Unit  
North Carolina Department of Transportation  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

**B-4864**, Replace Bridge Number 13 over the Troublesome Creek on SR 2344 (Haynes Road), Rockingham County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation for the subject project. Based on the information supplied by you on May 10, 2012, the impacts are located in CU 03030002 of the Cape Fear River basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Cape Fear 03030002 CP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	50	0	0	0	0	0

This impact and associated mitigation need were not projected by the NCDOT in the 2012 impact data. EEP will commit to implement sufficient compensatory stream mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,

Michael Ellison  
EEP Deputy Director

cc: Mr. Andy Williams, USACE – Raleigh Regulatory Field Office  
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit  
File: B-4864

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



**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: B-4864, Bridge No. 13 over Troublesome Creek on SR 2344 (Haynes Rd).**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:** Troublesome Creek, UT to Tr. Creek, and Wetland WA  
State: North Carolina County/parish/borough: Rockingham City: near Summerfield  
Center coordinates of site (lat/long in degree decimal format): Lat. ° **Pick List**, Long. ° **Pick List**.  
Universal Transverse Mercator: 17 599756E 4013985N (NAD83/WGS84)

Name of nearest waterbody: Troublesome Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Haw River

Name of watershed or Hydrologic Unit Code (HUC): 03030002

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

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

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain:

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: 841 width (ft) and/or acres.

Wetlands: 0.02 acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known):

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain:

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: Pick List

Drainage area: Pick List

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through Pick List tributaries before entering TNW.

Project waters are Pick List river miles from TNW.

Project waters are Pick List river miles from RPW.

Project waters are Pick List aerial (straight) miles from TNW.

Project waters are Pick List aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW<sup>5</sup>:

Tributary stream order, if known: .

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is:  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):

Average width: feet  
Average depth: feet  
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/% cover:  
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime: .

Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:        acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

- Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- Directly abutting
- Not directly abutting
  - Discrete wetland hydrologic connection. Explain:
  - Ecological connection. Explain:
  - Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (        ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
  - TNWs: linear feet width (ft), Or, acres.
  - Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
  - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: During a site visit on 11/2/07, both Troublesome Creek and the UT to Troublesome Creek had moderate flow within the study area. Both tributaries had established, stable banks and possessed several geomorphological and hydrological characteristics indicative of perennial tributaries.
  - Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

3. **Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **The UT to Troublesome Creek runs directly through Wetland A on its way to Troublesome Creek.**  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **0.02** acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:        acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area:        acres.

7. **Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: .

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.

Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .

Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet width (ft).

Lakes/ponds: acres.

Other non-wetland waters: acres. List type of aquatic resource: .

Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).

Lakes/ponds: acres.

Other non-wetland waters: acres. List type of aquatic resource: .

Wetlands: acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall 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:

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: .

USDA Natural Resources Conservation Service Soil Survey. Citation: .

National wetlands inventory map(s). Cite name: .

State/Local wetland inventory map(s): .

FEMA/FIRM maps: .

100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)

Photographs:  Aerial (Name & Date): .

or  Other (Name & Date): .

Previous determination(s). File no. and date of response letter: .

Applicable/supporting case law: .

Applicable/supporting scientific literature: .

Other information (please specify): .

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

# STORMWATER MANAGEMENT PLAN

B-4864, WBS No. 41553.1.1

Rockingham County

Hydraulics Project Manager: Stephen Morgan, PE

Date: 03/20/2012

## ROADWAY DESCRIPTION

The project involves the replacement of Bridge No. 13 over Troublesome Creek on SR 2344 (Haynes Road). The overall length of the project is 0.116 miles. The project will replace an existing 41' single span timber bridge with a 49.5' 3@12' wide by 14' high precast reinforced concrete box culvert. An offsite detour will be utilized.

## ENVIRONMENTAL DESCRIPTION AND IMPACTS

The project is located in the Cape Fear River Basin. The drainage area at the crossing is approximately 8.7 mi<sup>2</sup>. The proposed culvert impacts Troublesome Creek, which is classified as Class C; WS-III, NSW. Troublesome Creek is not listed on the 2010 Final 303(d) list of impaired waters for Low Dissolved Oxygen. There are no wetlands located within the project footprint. Stream impacts are due to the proposed culvert.

Approximately 123' of permanent stream impacts and 108' of temporary stream impacts will occur.

Approximately 9456 ft<sup>2</sup> of buffer zones will be allowable impacted.

## BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

Best management practices (BMP's) and measures used on the project are an attempt to reduce the impacts to the receiving stream due to erosion and runoff. Class I rip rap is used at the proposed culvert inlet/outlet to minimize erosion to the stream banks. A 4' high sill is used at the entrance of the outer southern barrel to promote the retention of natural bed material and the formation of a low flow channel within the middle barrel of the proposed culvert.

## CULVERT

-L- Station 16+20.13 replace existing bridge over Troublesome Creek with a 3@12' wide by 14' high precast reinforced concrete box culvert. The culvert will be buried 1' and has a 4' high sill at the entrance of the outer southern barrel to facilitate retention of natural bed material and the formation of a low flow channel.

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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**ROCKINGHAM COUNTY**

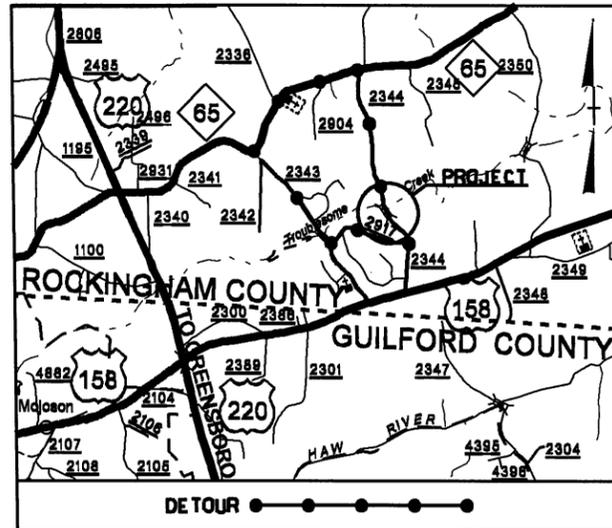
LOCATION: BRIDGE NO. 13 OVER TROUBLESOME CREEK ON SR 2344

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4864	1	
STATE FUNDING	F.A. PROJECT	DESCRIPTION	
41553.1.1	BRZ-2344(1)	PE	

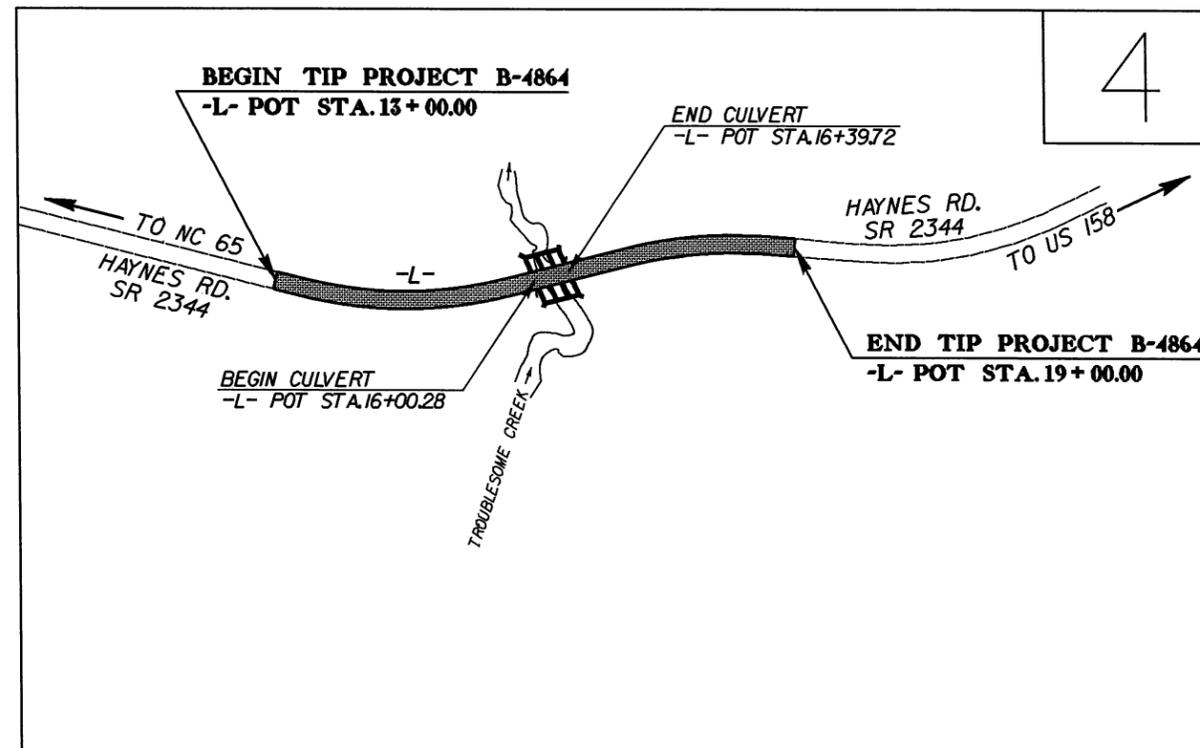
Permit Drawing  
Sheet 1 of 8

TIP PROJECT: B-4864



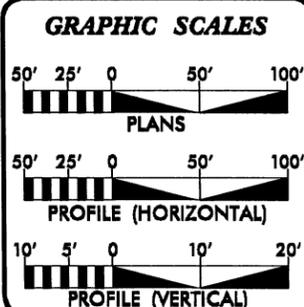
VICINITY MAP

**SURFACE WATER  
IMPACTS**



NOTES: (1) CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD \_\_\_\_  
(2) THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

CONTRACT:



**DESIGN DATA**

ADT 2013 =	1,540
ADT 2035 =	2,800
DHV =	10%
D =	60%
T =	3% *
V =	35 MPH
FUNC. CLASS. =	LOCAL
* TTST 1% DUAL 2%	SUBREGIONAL TIER

**PROJECT LENGTH**

LENGTH ROADWAY	TIP PROJECT B-4864	= 0.107 MI.
LENGTH STRUCTURE	TIP PROJECT B-4864	= 0.007 MI.
TOTAL LENGTH OF	TIP PROJECT B-4864	= 0.114 MI.

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
1000 Birch Ridge Dr.  
Raleigh, NC 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
JANUARY 2012

LETTING DATE:  
FEBRUARY 19, 2013

REKHA PATEL, P.E.  
PROJECT ENGINEER

MICHAEL W. LITTLE, P.E.  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

ROADWAY DESIGN ENGINEER

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS  
DO NOT USE FOR R.F.W. ACQUISITION

SIGNATURE: \_\_\_\_\_ P.E.

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

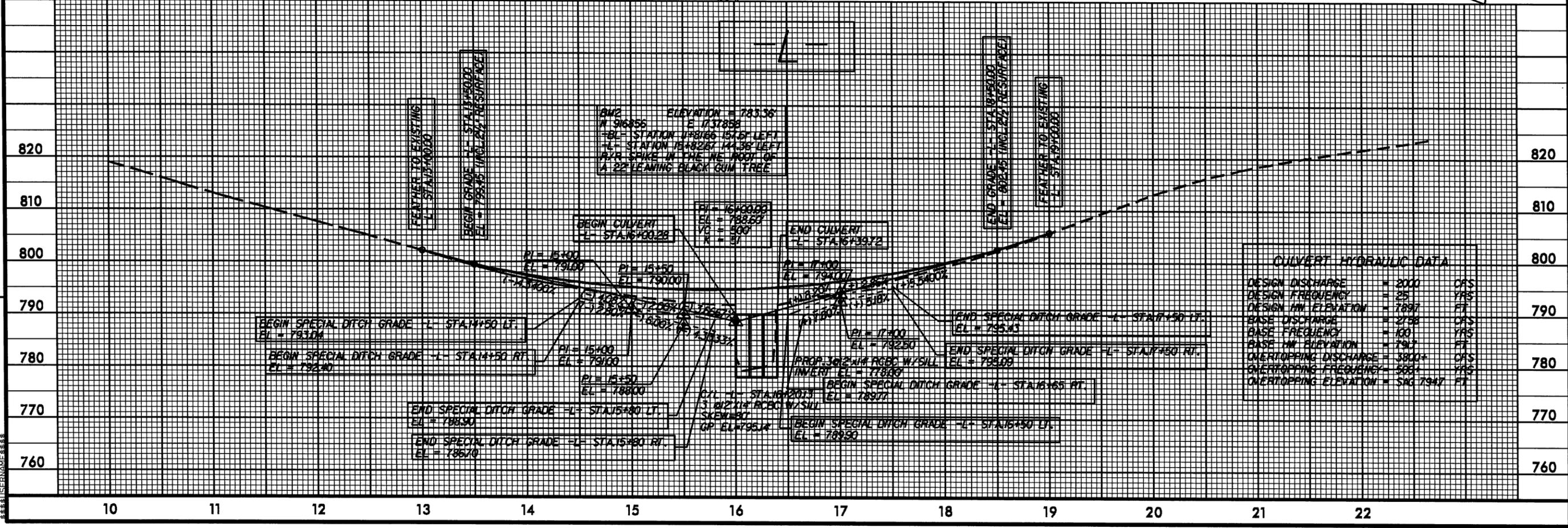
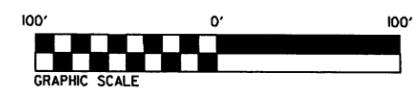
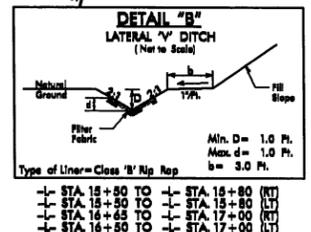
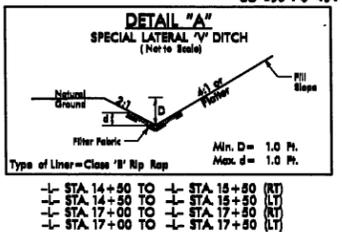
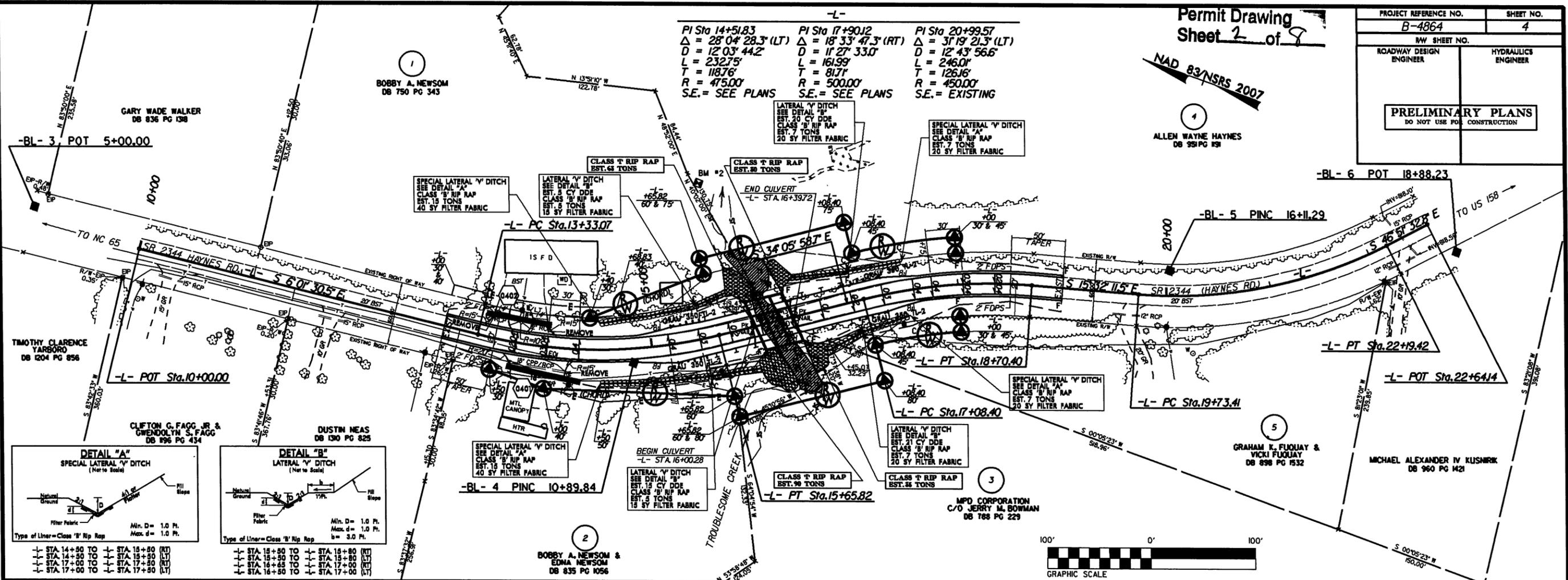
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PROJECT REFERENCE NO. B-4864	SHEET NO. 4
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-L-

PI Sta 14+51.83 Δ = 28° 04' 28.3" (LT) D = 12' 03" 44.2" L = 232.75' T = 118.76' R = 475.00' S.E. = SEE PLANS	PI Sta 17+90.12 Δ = 18° 33' 47.3" (RT) D = 11' 27" 33.0" L = 161.99' T = 81.71' R = 500.00' S.E. = SEE PLANS	PI Sta 20+99.57 Δ = 31° 19' 21.3" (LT) D = 12' 43" 56.6" L = 246.01' T = 126.16' R = 450.00' S.E. = EXISTING
---	--	--

NAD 83/NRSR 2007



**CULVERT HYDRAULIC DATA**

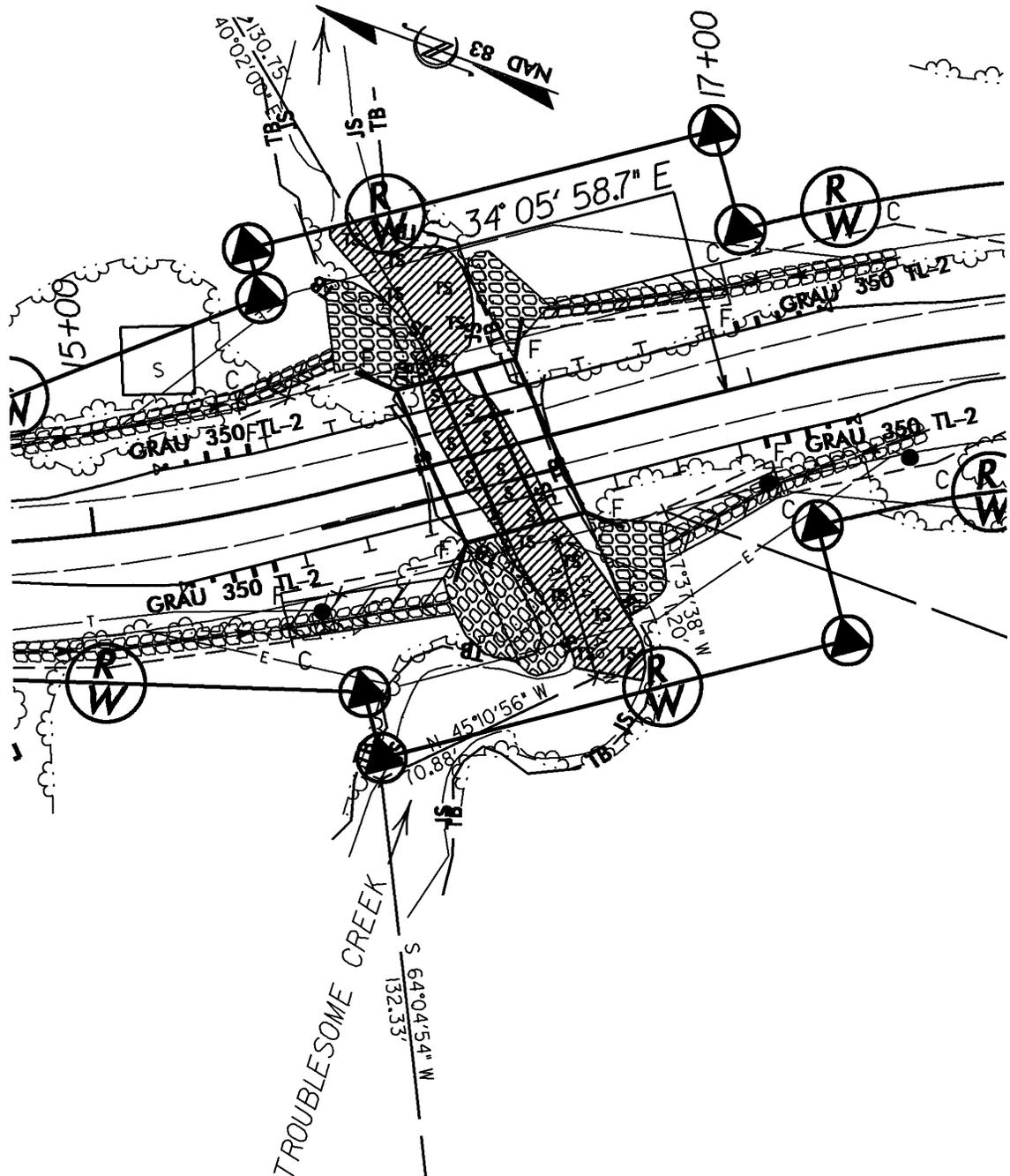
DESIGN DISCHARGE	= 2000	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 789.7	FT
BASE DISCHARGE	= 27.98	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 791.7	FT
OVERTOPPING DISCHARGE	= 3800+	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= SAG 794.7	FT

REVISIONS

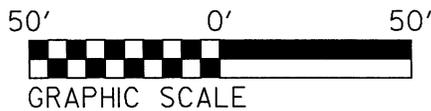
8/17/99

SYSTEMS ENGINEERING





# SURFACE WATER IMPACTS



DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER

# PLAN VIEW

## NCDOT

DIVISION OF HIGHWAYS

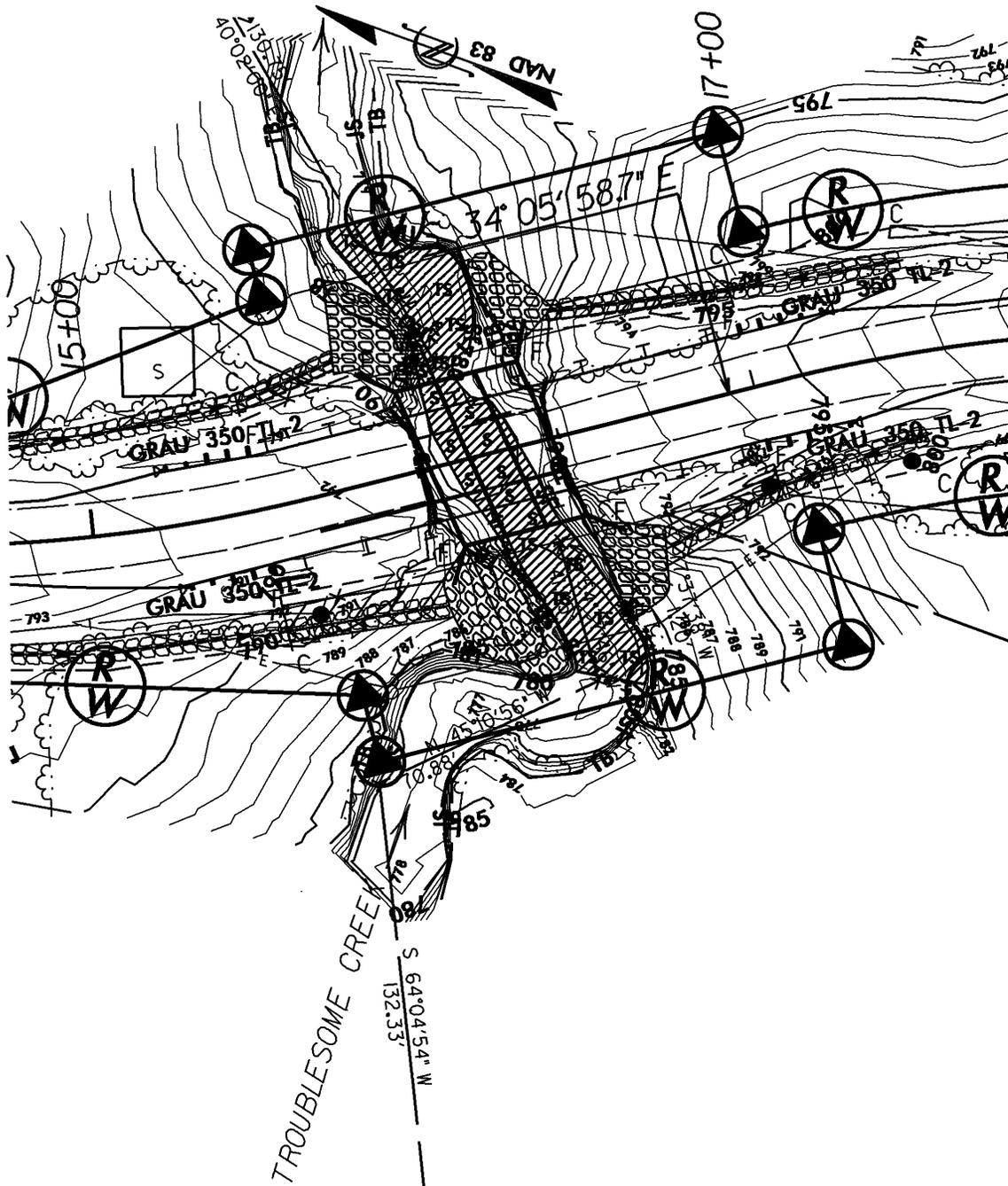
ROCKINGHAM COUNTY

PROJECT: 4.1553.1.1 (B-4864)

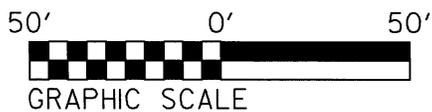
REPLACE BRIDGE NO.13

ON SR 2344 (HAYNES RD.)

OVER TROUBLESOME CREEK



# SURFACE WATER IMPACTS



DENOTES IMPACTS IN SURFACE WATER

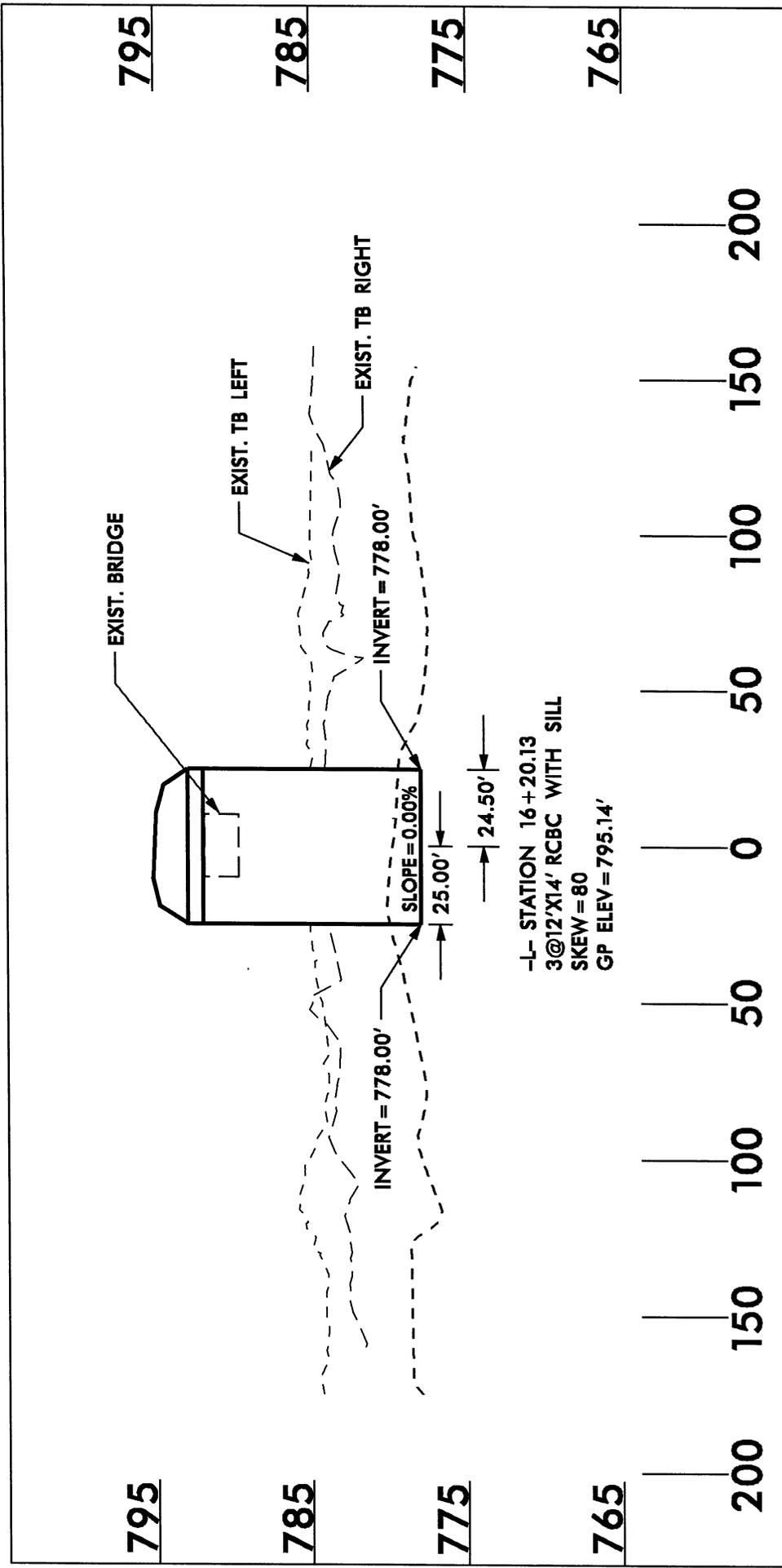


DENOTES TEMPORARY IMPACTS IN SURFACE WATER

# PLAN VIEW

## NCDOT

DIVISION OF HIGHWAYS  
 ROCKINGHAM COUNTY  
 PROJECT: 4.1553.1.1 (B-4864)  
 REPLACE BRIDGE NO.13  
 ON SR 2344 (HAYNES RD.)  
 OVER TROUBLESOME CREEK



NCDOT

DIVISION OF HIGHWAYS  
ROCKINGHAM COUNTY  
PROJECT: 41553.1.1 (B-4864)  
REPLACE BRIDGE 13  
ON SR 2344  
OVER TROUBLESOME CREEK

PROFILE

# PROPERTY OWNERS

## NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	BOBBY A. NEWSOM	535 HAYNES ROAD, SUMMERFIELD, NC 27358
2	BOBBY A. NEWSOM EDNA NEWSOM	535 HAYNES ROAD, SUMMERFIELD, NC 27358
3	MPD CORPORATION CO JERRY M. BOWMAN	1314 CANTERBURY TR., ASHEBORO, NC 27205
4	ALLEN WAYNE HAYNES	855 HAYNES ROAD, SUMMERFIELD, NC 27358
5	GRAHAM K. FUQUAY VICKI FUQUAY	470 HAYNES ROAD, SUMMERFIELD, NC 27358

**NCDOT**

**DIVISION OF HIGHWAYS**

**ROCKINGHAM COUNTY**

**PROJECT: 41553.1.1 (B-4864)**

**REPLACE BRIDGE 13**

**ON SR 2344**

**OVER TROUBLESOME CREEK**

SHEET

7

OF

8

3/16/12



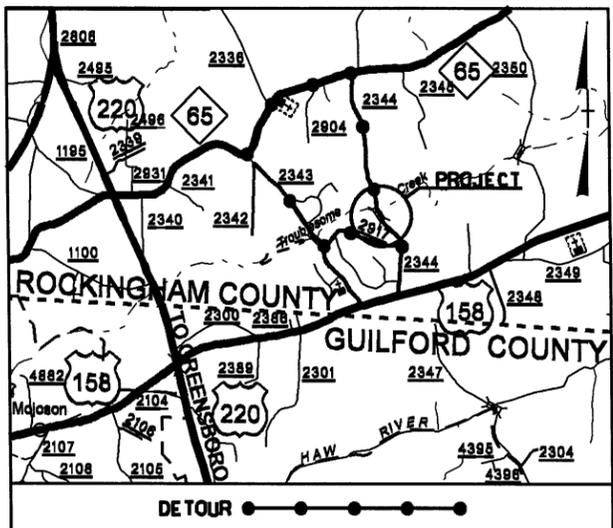
See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Conventional Symbols

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

Buffer Drawing  
Sheet 1 of 7

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4864	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
41553.1.1	BRZ-2344(1)	PE	

TIP PROJECT: B-4864



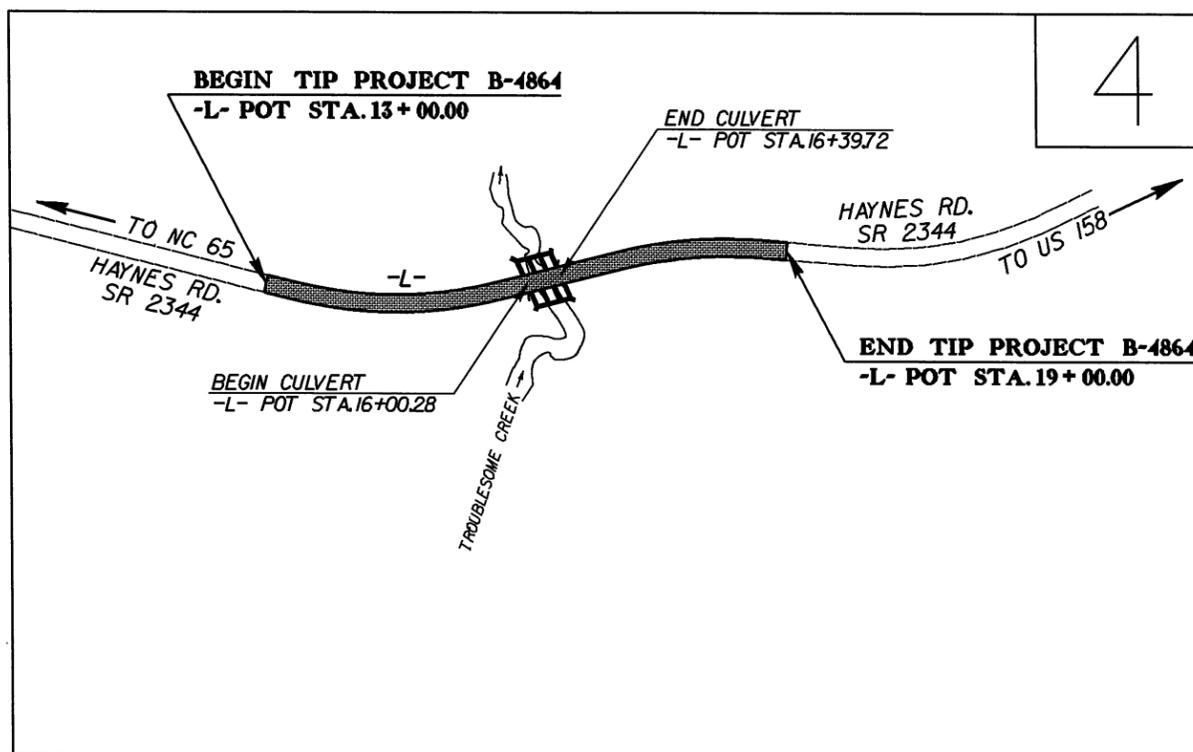
VICINITY MAP

**ROCKINGHAM COUNTY**

LOCATION: BRIDGE NO. 13 OVER TROUBLESOME CREEK ON SR 2344

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

**BUFFER IMPACTS**



NOTES: (1) CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD \_\_\_\_  
(2) THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

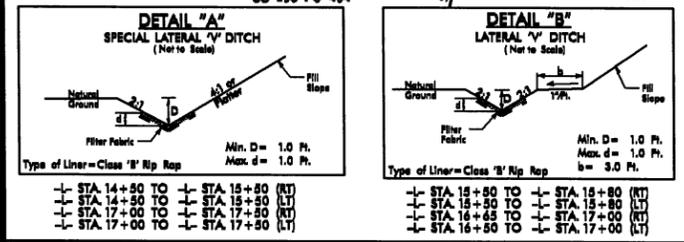
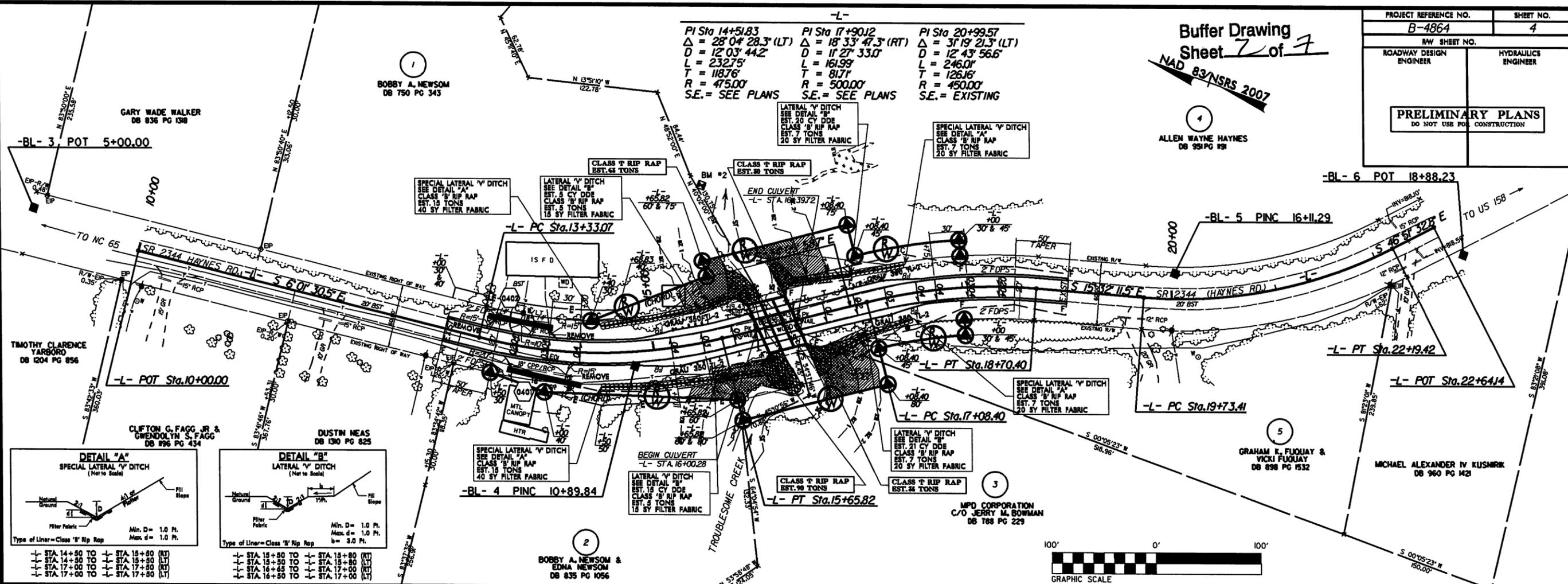
CONTRACT:

\$\$\$\$\$SYTIME\$\$\$\$\$  
\$\$\$\$\$DGN\$\$\$\$\$  
\$\$\$\$\$USERNAME\$\$\$\$\$

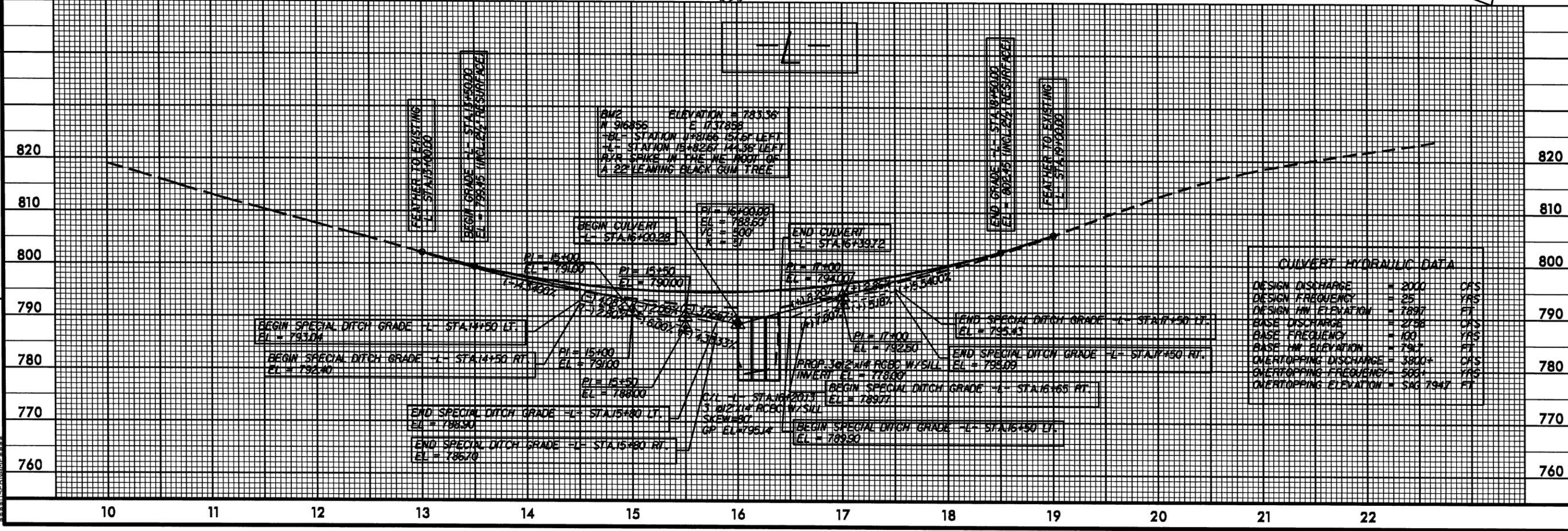
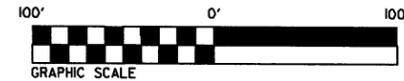
<p><b>GRAPHIC SCALES</b></p> <p>50' 25' 0 50' 100'</p> <p>PLANS</p> <p>50' 25' 0 50' 100'</p> <p>PROFILE (HORIZONTAL)</p> <p>10' 5' 0 10' 20'</p> <p>PROFILE (VERTICAL)</p>	<p><b>DESIGN DATA</b></p> <p>ADT 2013 = 1,540</p> <p>ADT 2035 = 2,800</p> <p>DHV = 10%</p> <p>D = 60%</p> <p>T = 3% *</p> <p>V = 35 MPH</p> <p>FUNC. CLASS. = LOCAL</p> <p>* TTST 1% DUAL 2%</p> <p>SUBREGIONAL TIER</p>	<p><b>PROJECT LENGTH</b></p> <p>LENGTH ROADWAY TIP PROJECT B-4864 = 0.107 MI.</p> <p>LENGTH STRUCTURE TIP PROJECT B-4864 = 0.007 MI.</p> <p>TOTAL LENGTH OF TIP PROJECT B-4864 = 0.114 MI.</p>	<p>Prepared in the Office of:</p> <p><b>DIVISION OF HIGHWAYS</b></p> <p>1000 Birch Ridge Dr. Raleigh, NC 27610</p> <p>2006 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE: JANUARY 2012</p> <p>LETTING DATE: FEBRUARY 19, 2013</p> <p>REKHA PATEL, P.E. PROJECT ENGINEER</p> <p>MICHAEL W. LITTLE, P.E. PROJECT DESIGN ENGINEER</p>	<p>HYDRAULICS ENGINEER</p> <p>SIGNATURE: _____ P.E.</p> <p>ROADWAY DESIGN ENGINEER</p> <p>PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION</p> <p>INCOMPLETE PLANS DO NOT USE FOR ANY ACQUISITION</p> <p>SIGNATURE: _____ P.E.</p> <p>STATE HIGHWAY DESIGN ENGINEER</p>	<p>DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA</p> 
---	--	--	---	--	---

**Buffer Drawing**  
**Sheet 7 of 7**  
 NAD 83/NRS 2007

PI Sta 14+51.83 Δ = 28' 04" 28.3" (LT) D = 12' 03" 44.2" L = 232.75' T = 118.76' R = 475.00' S.E. = SEE PLANS	PI Sta 17+90.12 Δ = 18' 33" 47.3" (RT) D = 11' 27" 33.0" L = 161.99' T = 81.7' R = 500.00' S.E. = SEE PLANS	PI Sta 20+99.57 Δ = 31' 19" 21.3" (LT) D = 12' 43" 56.6" L = 246.0' T = 126.16' R = 450.00' S.E. = EXISTING
---	---	---



STA 14+50 TO STA 14+80 (RT)	STA 18+80 (RT)
STA 14+50 TO STA 14+80 (LT)	STA 18+80 (LT)
STA 17+00 TO STA 17+80 (RT)	STA 17+80 (RT)
STA 17+00 TO STA 17+80 (LT)	STA 17+80 (LT)

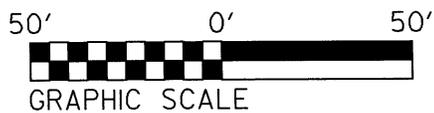
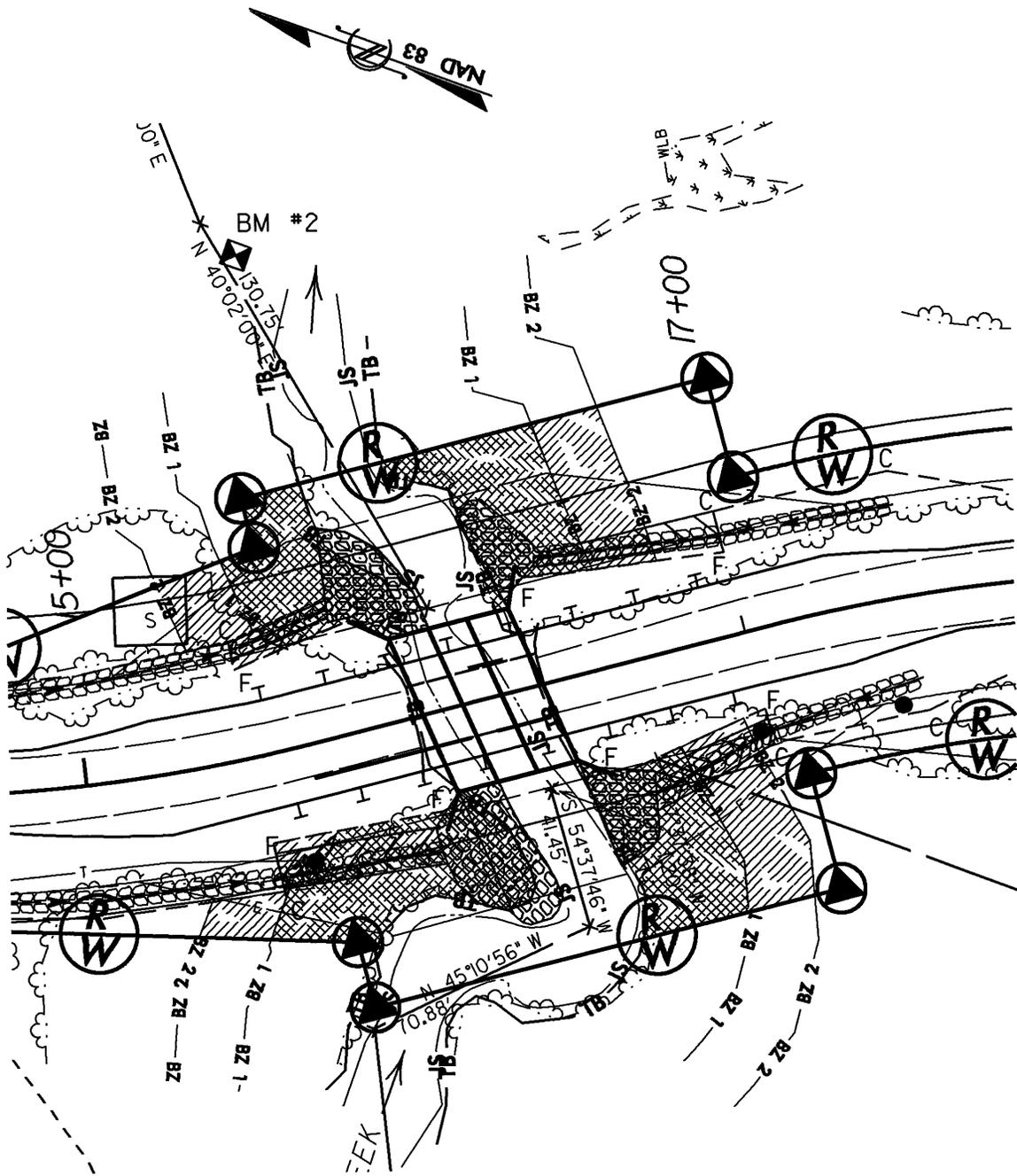


**CULVERT HYDRAULIC DATA**

DESIGN DISCHARGE	= 2000	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 7897	FT
BASE DISCHARGE	= 2758	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 7917	FT
OVERTOPPING DISCHARGE	= 3900+	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= SAC 7947	FT

8/17/99  
 REVISIONS  
 SYSTEMS ENGINEER  
 DESIGNER  
 USER NAME



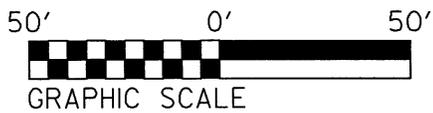
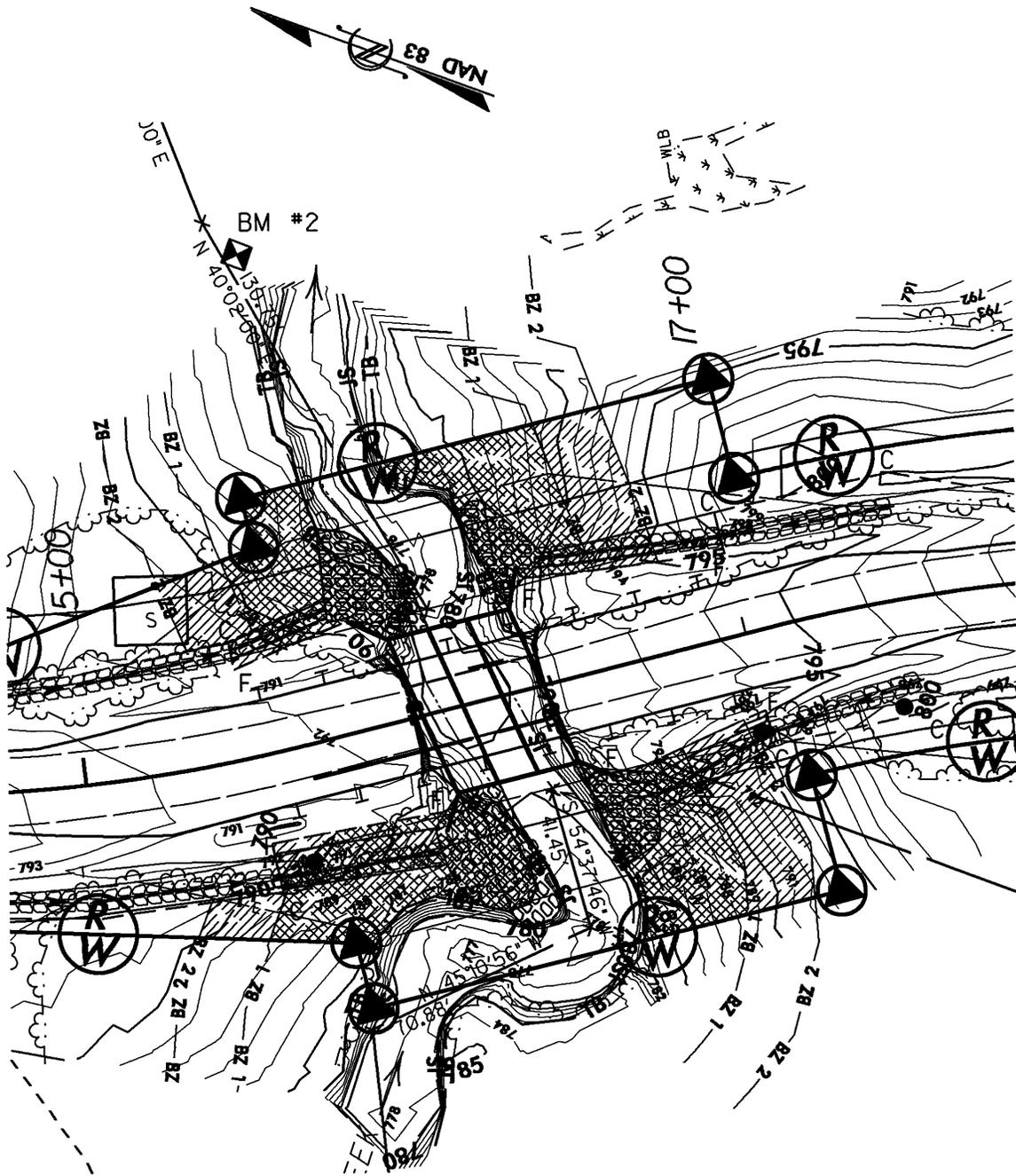


### BUFFER IMPACTS

-  ALLOWABLE IMPACTS ZONE 1
-  ALLOWABLE IMPACTS ZONE 2

### PLAN VIEW

NCDOT  
 DIVISION OF HIGHWAYS  
 ROCKINGHAM COUNTY  
 PROJECT: 41553.1.1 (B-4864)  
 REPLACE BRIDGE NO.13  
 ON SR 2344  
 OVER TROUBLESOME CREEK



## BUFFER IMPACTS



ALLOWABLE IMPACTS ZONE 1

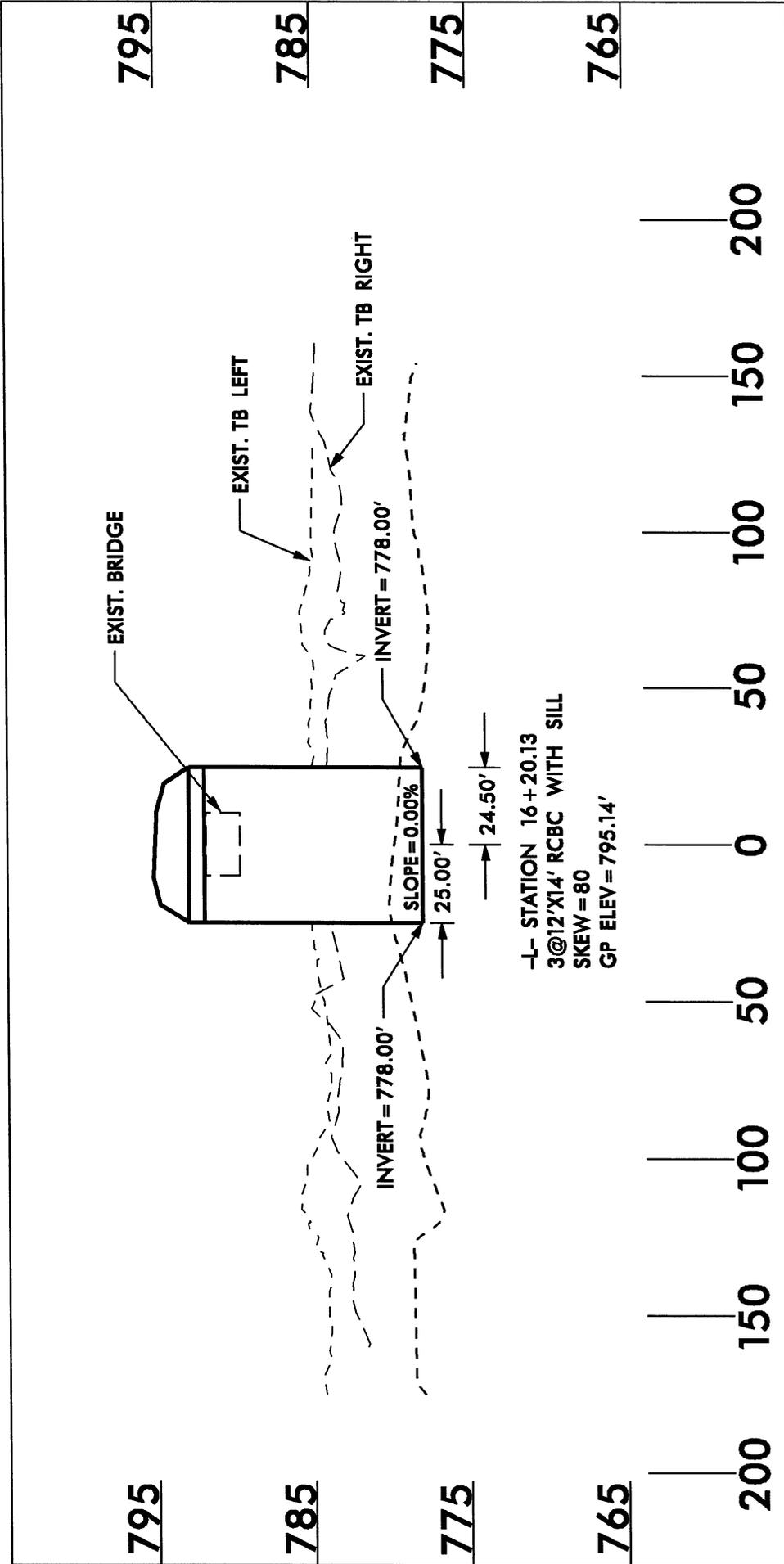


ALLOWABLE IMPACTS ZONE 2

## PLAN VIEW

NCDOT  
DIVISION OF HIGHWAYS  
ROCKINGHAM COUNTY  
PROJECT: 41553.1.1 (B-4864)  
REPLACE BRIDGE NO.13  
ON SR 2344  
OVER TROUBLESOME CREEK

SHEET 5 OF 7 03/21/2012



**NCDOT**  
 DIVISION OF HIGHWAYS  
 ROCKINGHAM COUNTY  
 PROJECT: 41553.1.1 (B-486-0)  
 REPLACE BRIDGE 13  
 ON SR 2344  
 OVER TROUBLESOME CREEK

**PROFILE**



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

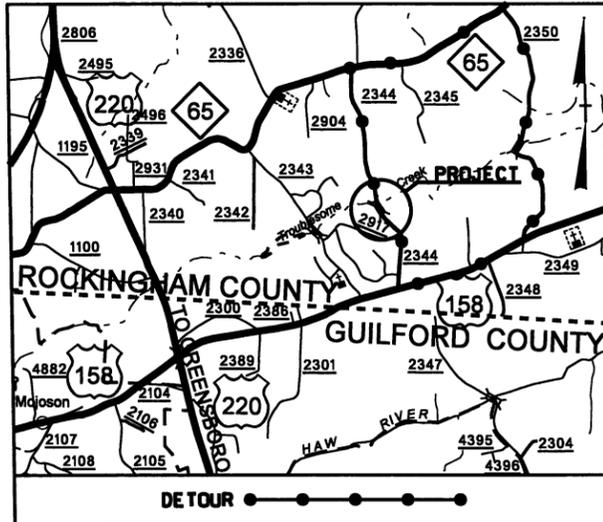
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4864	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
41553.1.1	BRZ-2344(I)	PE	
41553.2.1	BRZ-2344(I)	ROW & UTIL.	

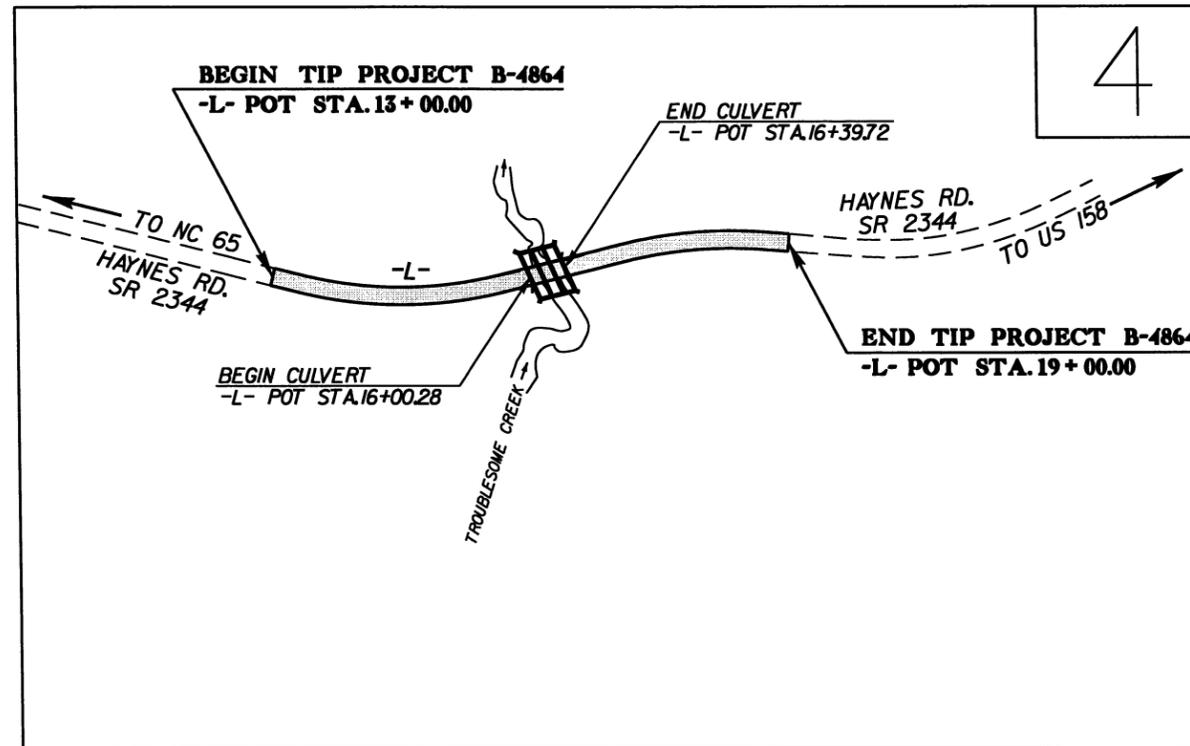
**ROCKINGHAM COUNTY**

LOCATION: BRIDGE NO. 13 OVER TROUBLESOME CREEK ON SR 2344

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

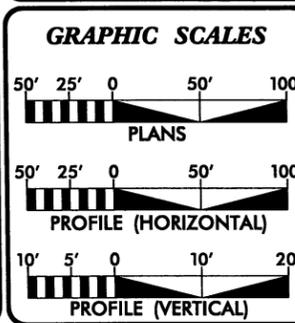


VICINITY MAP



NOTES: (1) CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.  
(2) THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

**CONTRACT:**



**DESIGN DATA**

ADT 2013 =	1,540
ADT 2035 =	2,800
DHV =	10%
D =	60%
T =	3% *
V =	35 MPH
FUNC. CLASS. =	LOCAL
* TTST 1% DUAL 2%	SUBREGIONAL TIER

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4864 =	0.107 MI.
LENGTH STRUCTURE TIP PROJECT B-4864 =	0.007 MI.
TOTAL LENGTH OF TIP PROJECT B-4864 =	0.114 MI.

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
1000 Birch Ridge Dr.  
Raleigh, NC 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
JANUARY 4, 2012

LETTING DATE:  
FEBRUARY 19, 2013

REKHA PATEL, P.E.  
PROJECT ENGINEER

MICHAEL W. LITTLE, P.E.  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

ROADWAY DESIGN ENGINEER

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

SIGNATURE: \_\_\_\_\_ P.E.



23-JAN-2012 09:41  
C:\WORK\2012\B-4864\_rdy\_tsh.dgn  
\$\$\$\$\$USER\$NAME\$\$\$\$\$

Note: Not to Scale

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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. B-4864 SHEET NO. 1-B

# CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	✕
Property Monument	□
Parcel/Sequence Number	②③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	-o-o-o-
Proposed Chain Link Fence	-□-□-□-
Proposed Barbed Wire Fence	-◇-◇-◇-
Existing Wetland Boundary	-w-w-w-
Proposed Wetland Boundary	-w-w-w-
Existing Endangered Animal Boundary	-w-w-w-
Existing Endangered Plant Boundary	-w-w-w-
Known Soil Contamination: Area or Site	-sk- sk- sk- ☠
Potential Soil Contamination: Area or Site	-sk- sk- sk- ☠

## BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○
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	⊕
False Sump	⊕

## RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
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	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite RW Marker	-----
Proposed Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
Proposed Control of Access	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage / Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----
Proposed Permanent Easement with Iron Pin and Cap Marker	-----

## ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	-----
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	-----

## EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	-----
Storm Sewer	-----

## UTILITIES:

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

## TELEPHONE:

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

## WATER:

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

## TV:

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

## GAS:

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

## SANITARY SEWER:

Sanitary Sewer Manhole	-----
Sanitary Sewer Cleanout	-----
UG Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

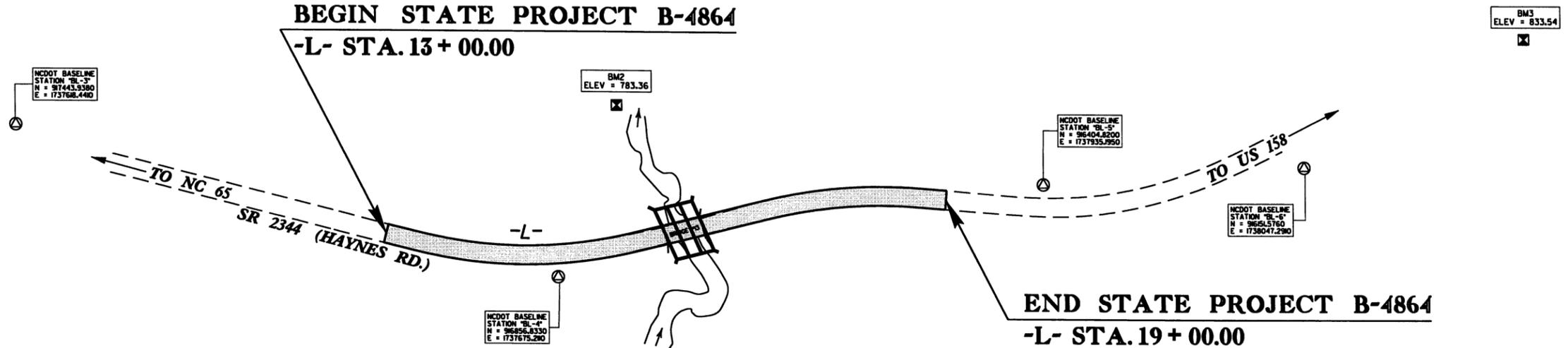
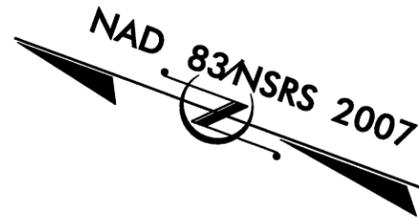
## MISCELLANEOUS:

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

12/01/2005

# B-4864 SURVEY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
B-4864	1-C
Location and Surveys	



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4864-2" WITH NAD 83 STATE PLANE GRID COORDINATES OF  
 NORTHING: 917872.4310(ft) EASTING: 1737521.6870(ft)  
 ELEVATION: 852.57'(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99999441  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4864-2" TO -L- STATION 13+00.00 IS  
 S 8°28'59" 843.48 ft

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NGVD 29

**BASILINE DATA**

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3			917443.9380	1737618.4410	824.85	OUTSIDE PROJECT LIMITS	
4			916856.8330	1737675.2110	793.63	14+81.56	13.79 RT
5			916404.8200	1737935.1950	811.98	20+02.96	23.83 LT
6			916151.5760	1738047.2910	826.84	OUTSIDE PROJECT LIMITS	

**BENCHMARK DATA**

```

*****
BM1      ELEVATION = 852.57
N 917872      E 1737522
L STATION 22+64.00
N 17°46'57.95" W DIST 1770.28
*****

BM2      ELEVATION = 783.36
N 916856      E 1737858
L STATION 15+83.00 144 LEFT
*****

BM3      ELEVATION = 833.54
N 915978      E 1738255
L STATION 22+64.00
S 42°45'14.97" E DIST 283.74
*****
    
```

**NOTES**

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)  
 THE FILES TO BE FOUND ARE AS FOLLOWS:  
 b4864\_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

23-JAN-2012 09:42  
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 \*\*\*\$USER\$\*\*\*

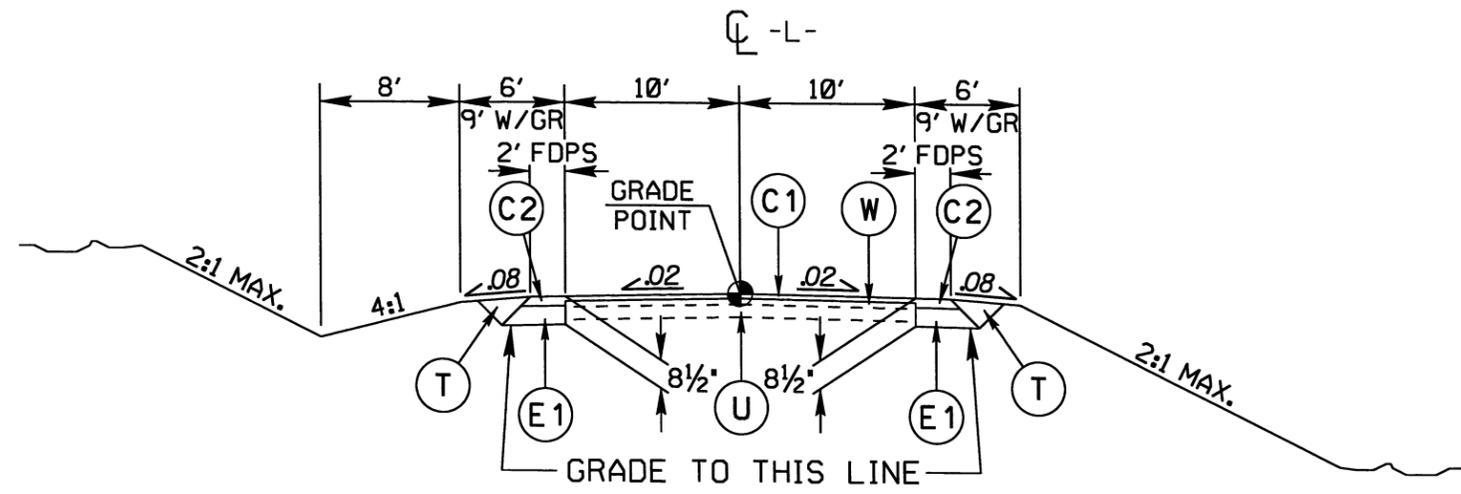
6/2/99

# PAVEMENT SCHEDULE

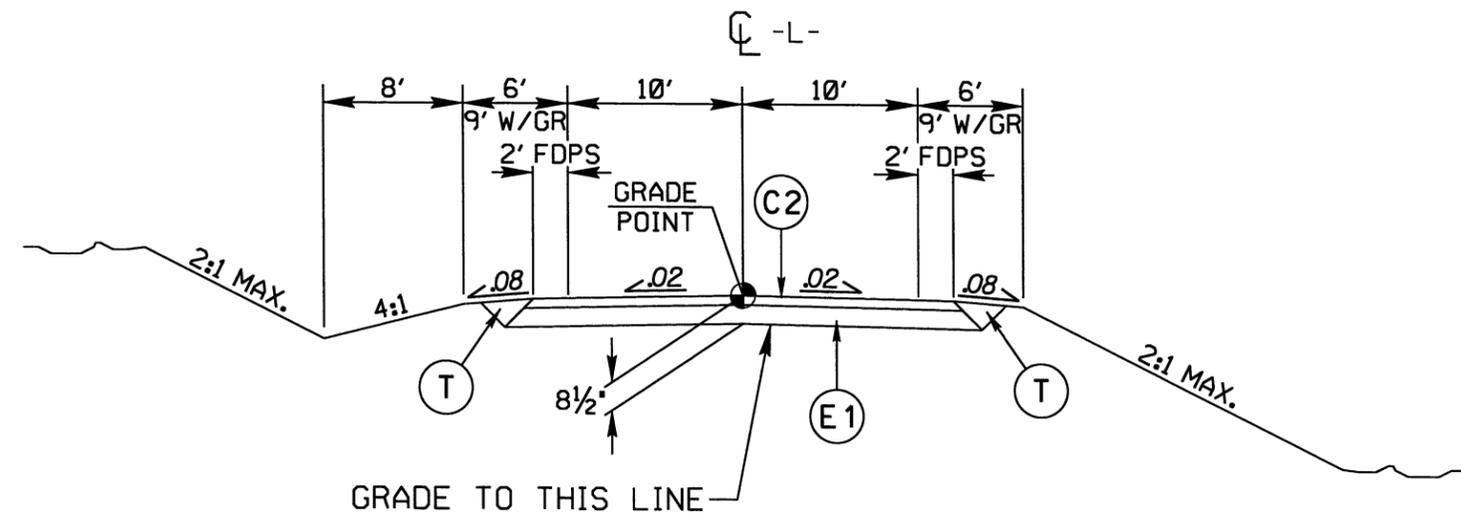
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B. AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	T	EARTH MATERIAL
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B. AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	U	EXISTING PAVEMENT
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B. AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1 1/2" IN DEPTH	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)
E1	PROP. APPROX. 5 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B. AT AN AVERAGE RATE OF 627 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 4" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH		

NOTE: PAVEMENT EDGE SLOPES ARE 4:1 UNLESS SHOWN OTHERWISE

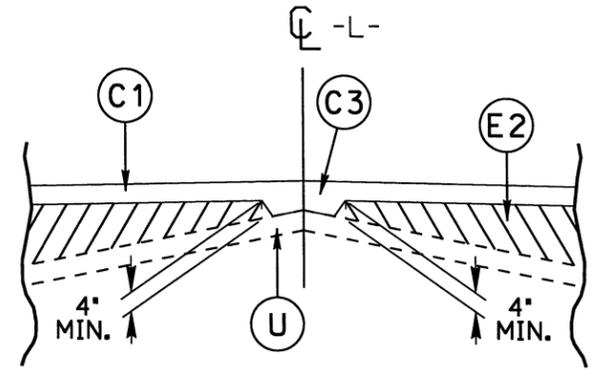
PROJECT REFERENCE NO. <b>B-4864</b>	SHEET NO. <b>2</b>
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2

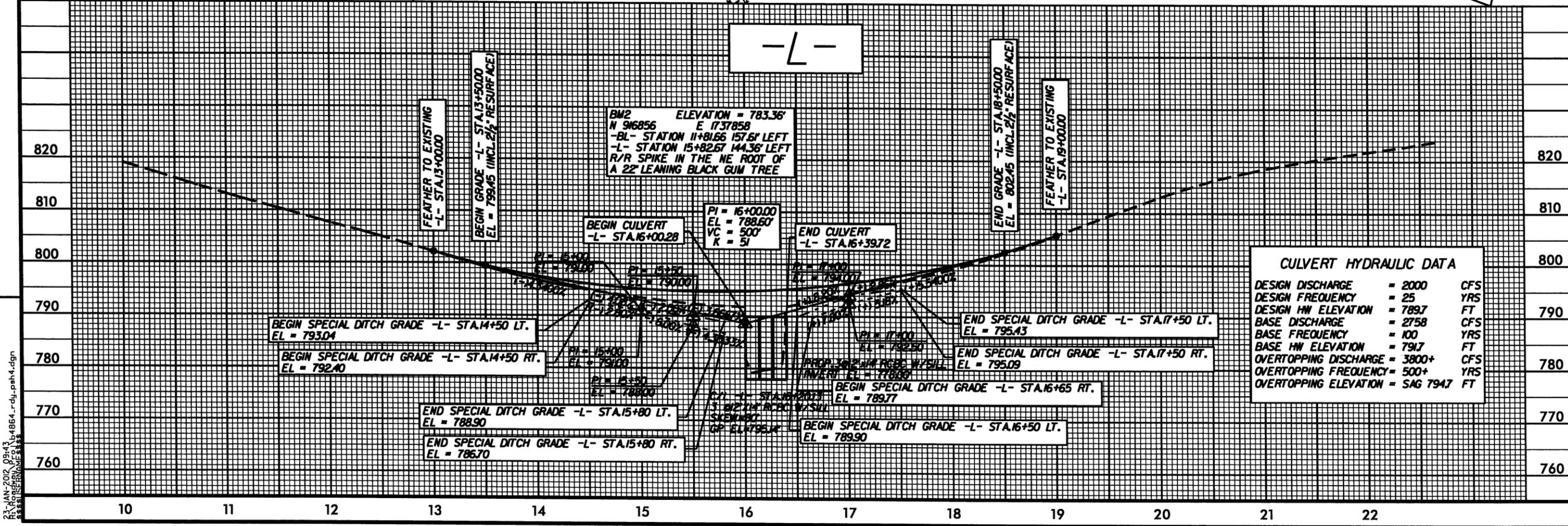
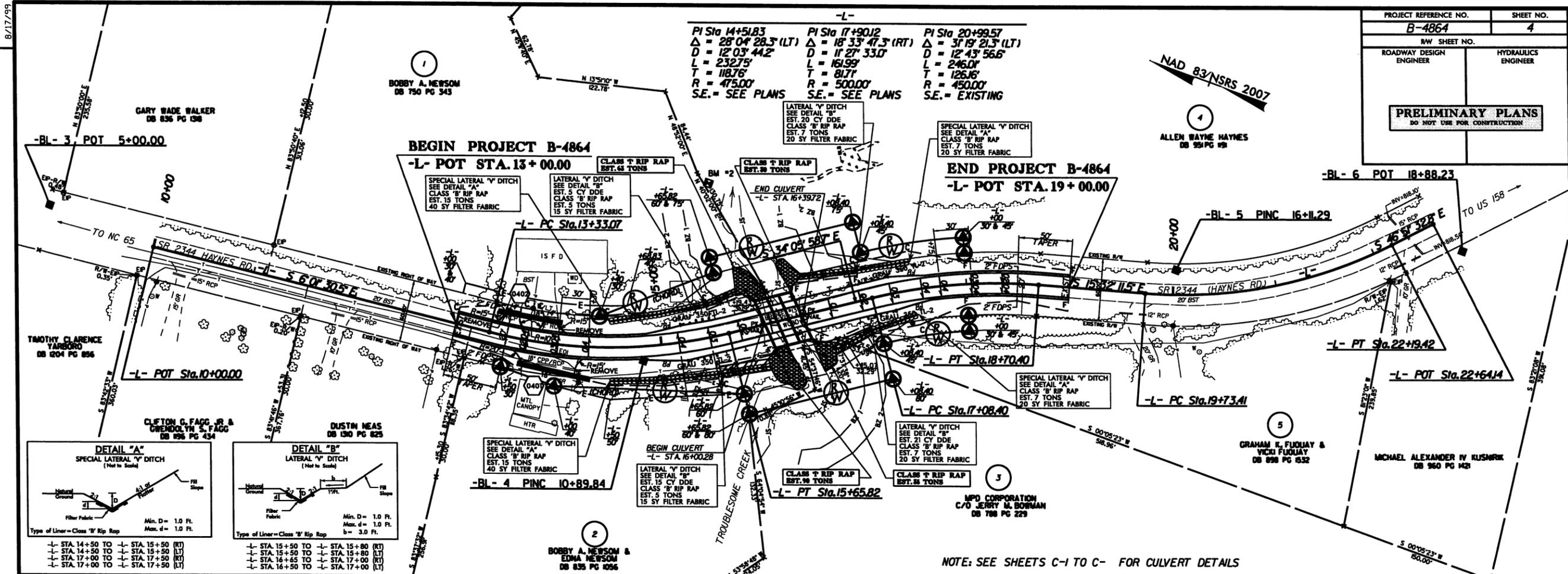


DETAIL SHOWING METHOD OF WEDGING

USE TYPICAL SECTION NO. 1  
 -L- STA. 13+50.00 TO -L- STA. 14+00.00  
 -L- STA. 18+00.00 TO -L- STA. 18+50.00  
 NOTES: (1) TRANSITION FROM EXISTING TO T.S. NO. 1  
 -L- STA. 13+00.00 TO -L- STA. 13+50.00  
 (2) TRANSITION FROM T.S. NO. 1 TO EXISTING  
 -L- STA. 18+50.00 TO -L- STA. 19+00.00

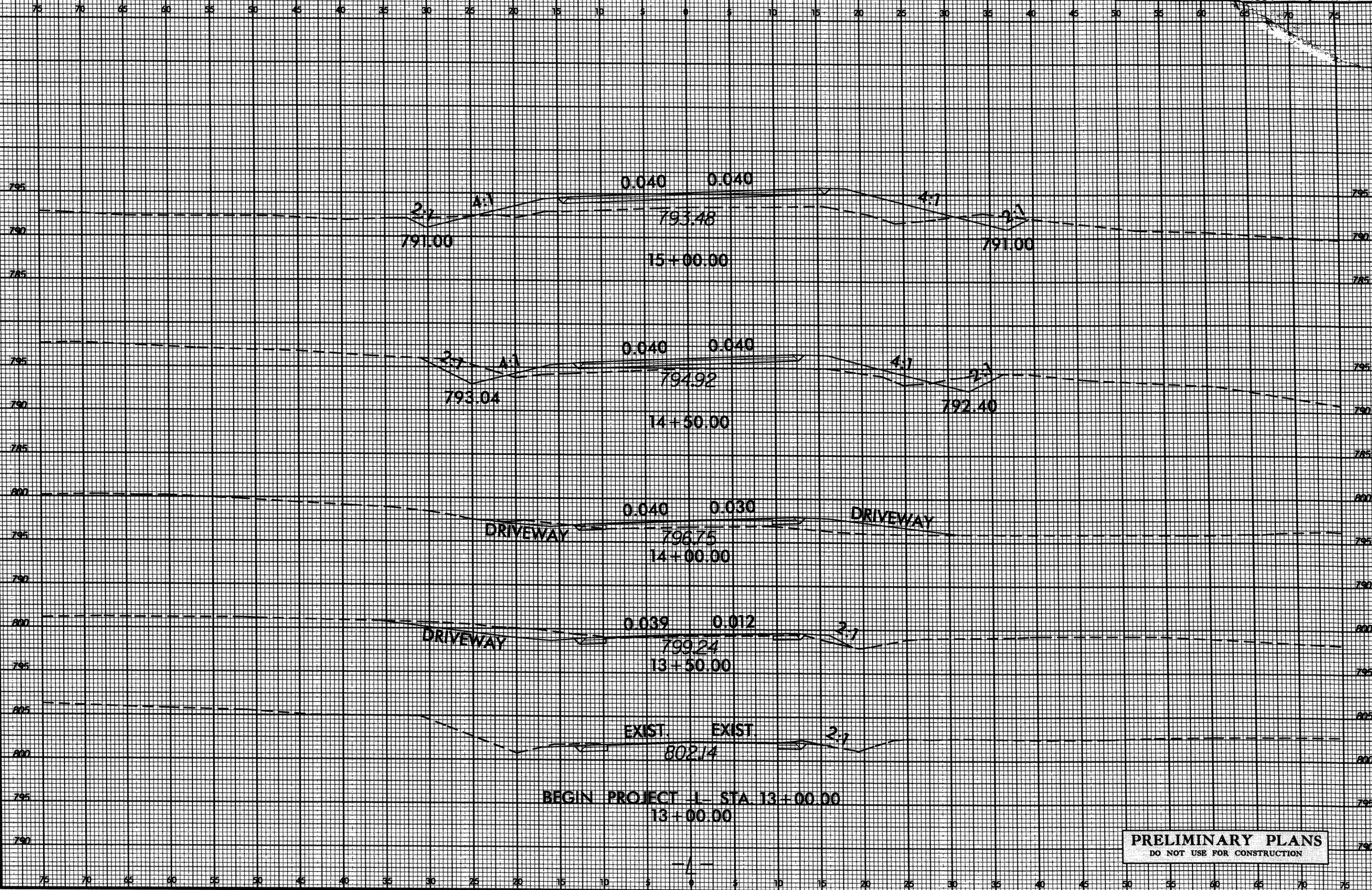
USE TYPICAL SECTION NO. 2  
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23-JAN-2002 09:42  
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 REVISIONS  
 23-1AN-2012\_09V3  
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 8/17/99

8/23/99



BEGIN PROJECT - STA. 13+00.00  
13+00.00

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

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CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	<u>B-4864</u>
W.B.S. No.	<u>41553.1.1</u>
Federal Project No.	<u>BRZ-2344(1)</u>

A. Project Description:

The purpose of this project is to replace Rockingham County Bridge No. 13 on SR 2344 over Troublesome Creek. The replacement structure will consist of a triple barrel reinforced concrete box culvert, each barrel of the culvert will be 12-foot wide by 14-foot high. The culvert size is based on preliminary design information and is set by hydraulic requirements. This structure will be of sufficient length to provide two 10-foot lanes. The roadway grade of the new structure will be raised approximately five feet.

The approach roadway will extend approximately 300 feet from the northwest end of the new culvert and 260 feet from the southeast end of the new culvert. The approaches will be widened to include a 24-foot pavement width providing two 10-foot lanes. Six-foot shoulders will be provided on each side with two-foot full depth paved shoulders. The roadway will be designed as a Rural Local Route using Sub Regional Tier guidelines with a 35 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. 13 has a sufficiency rating of 20.7 out of a possible 100 for a new structure.

The bridge is considered structurally deficient due to a structural appraisal rating 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 a deck geometry appraisal of 2 out of 9.

The superstructure and substructure of Bridge No. 13 have timber elements that are fifty-seven 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. 13 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.

Bridge No. 13 carries 1,400 vehicles per day with 2,800 vehicles per day projected for the future. The substandard deck width is becoming increasingly unacceptable and replacement of the bridge will result in safer traffic operations.

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 2011 prices, are as follows:

Structure (Culvert)	\$ 193,000
Roadway Approaches	\$ 133,000
Detour Structure and Approaches	- 0 -
Structure Removal	\$ 15,000
Misc. & Mob.	\$ 66,000
Eng. & Contingencies	\$ 68,000
Total Construction Cost	\$ 475,000
Right-of-way Costs	\$ 32,000
Utility Costs	\$ 71,000
Total Project Cost	\$ 578,000

**Estimated Traffic:**

Current(2011) -	1400 vpd
Year 2035 -	2800 vpd
TTST -	1%
Dual -	2%

**Accidents:** Traffic Engineering has evaluated a recent three year period and found two accidents occurring in the vicinity of the project. Neither was 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 2344 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 or temporary bicycle nor pedestrian accommodations are required for this project.

**Bridge Demolition:** Bridge No. 13 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 as the existing bridge completely deteriorates.

**Rehabilitation** – The bridge was constructed in 1954 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. 13 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 2917, SR 2343, and NC 65. The majority of traffic on the road is through traffic. The detour for the average road user would result in 2 minutes additional travel time (1 mile additional travel). Up to a 6-month duration of construction is expected on this project.

Based on the Guidelines, the criteria above indicate that on the basis of delay alone the detour is acceptable. Rockingham County Emergency Services along with Rockingham County Schools Transportation have also indicated that the detour is acceptable. NCDOT Division 7 has indicated the condition of all roads, bridges, and intersections on the offsite detour, are acceptable without improvement and concurs 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 2344 is acceptable, a new alignment was not considered as an alternative.

**Structure Type:** The current structure is a bridge built in the 1950's. The reason for building a bridge was not because a culvert would not work but because the design, materials and labor were not practical in the time when this structure was built. A culvert has been determined adequate from a hydraulics standpoint. There are no special resources such as trout or mussels present. Because a culvert is less than half the cost, twice the life expectancy, and virtually no maintenance in comparison to a bridge, a culvert is the preferred structure type.

**Other Agency Comments:**

The **N.C. Wildlife Resource Commission** in standardized letters provided a request that they prefer any replacement structure to be a spanning structure.

**Response:** At smaller stream crossing it is more economical to replace bridges with box culverts. Culverts cost less than bridges, require less maintenance throughout their service life than bridges, and last longer than bridges. Therefore, where appropriate, NCDOT prefers to use box culverts to replace bridges. As there are no protected resources at this site, the proposed culvert will be designed according to current NCDOT design practices which include such measures as buried box bottoms to facilitate fish passage, dry cell(s) to allow wildlife passage, and placement to minimize channel widening and realignment.

The N.C. Division of Water Quality, the Army Corps of Engineers, the USDA Forest Service, the Division of Parks and Recreation and N.C. Marine Fisheries had no special concerns for this project.

**Public Involvement:**

A letter was sent by the Location & Surveys Unit to all property owners affected directly by this project. Property owners were invited to comment. No comments have been received to date.

E. Threshold Criteria

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

<u>ECOLOGICAL</u>	<u>YES</u>	<u>NO</u>
(1) Will the project have a substantial impact on any unique or important natural resource?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(2) Does the project involve habitat where federally listed endangered or threatened species may occur?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Will the project affect anadromous fish?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(5) Will the project require the use of U. S. Forest Service lands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(6) Will the quality of adjacent water resources be adversely impacted by proposed construction activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(7) Does the project involve waters classified as Outstanding Resource Water (ORW) and/or High Quality Waters (HQW)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(8) Will the project require fill in waters of the United States in any of the designated mountain trout counties?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

(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?       

(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)?  | <u>  X  </u>             | <input type="checkbox"/> |
| (23) | Is the project anticipated to cause an increase in traffic volumes?   | <input type="checkbox"/> | <u>  X  </u>             |
| (24) | Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?   | <u>  X  </u>             | <input type="checkbox"/> |
| (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? | <u>  X  </u>             | <input type="checkbox"/> |
| (26) | Is there substantial controversy on social, economic, or environmental grounds concerning the project?  | <input type="checkbox"/> | <u>  X  </u>             |
| (27) | Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?   | <u>  X  </u>             | <input type="checkbox"/> |
| (28) | Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places?  | <input type="checkbox"/> | <u>  X  </u>             |
| (29) | Will the project affect any archaeological remains which are important to history or pre-history?   | <input type="checkbox"/> | <u>  X  </u>             |
| (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)?             | <input type="checkbox"/> | <u>  X  </u>             |
| (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?  | <input type="checkbox"/> | <u>  X  </u>             |
| (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?   | <input type="checkbox"/> | <u>  X  </u>             |

F. Additional Documentation Required for Unfavorable Responses in Part E

**Response to Question 2:** Habitat for the Smooth coneflower is present within the project study area. A survey of all potential areas of habitat within the project study area was conducted on July 12, 2010. No individuals of this species were observed. A check of the NCNHP database on September 22, 2010 showed no known occurrences of this species within 1.0 mile of the study area. Therefore a biological conclusion of “No Effect” for the Smooth coneflower remains valid.

**Response to Question 13:** Rockingham County is a participant in the National Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). Based on the most current information available from the NC Floodplain Mapping Program (FMP), this stream crossing is in a designated flood hazard zone which is within a limited detailed flood study reach. The Hydraulics Unit will coordinate with the FMP, to determine the status of the project with regard to applicability of NCDOT’S Memorandum of Agreement with FMP, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR). This project involves construction activities on or adjacent to a FEMA-regulated stream. Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structures and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

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G. CE Approval

TIP Project No.	<u>B-4864</u>
W.B.S. No.	<u>41553.1.1</u>
Federal Project No.	<u>BRZ-2344 (1)</u>

Project Description:

The purpose of this project is to replace Rockingham County Bridge No. 13 on SR 2344 over Troublesome Creek. The replacement structure will consist of a triple barrel reinforced concrete box culvert, each barrel of the culvert will be 12-foot wide by 14-foot high. The culvert size is based on preliminary design information and is set by hydraulic requirements. This structure will be of sufficient length to provide two 10-foot lanes. The roadway grade of the new structure will be raised approximately five feet.

The approach roadway will extend approximately 300 feet from the northwest end of the new culvert and 260 feet from the southeast end of the new culvert. The approaches will be widened to include a 24-foot pavement width providing two 10-foot lanes. Six-foot shoulders will be provided on each side with two-foot full depth paved shoulders. The roadway will be designed as a Rural Local Route using Sub Regional Tier guidelines with a 35 mile per hour design speed.

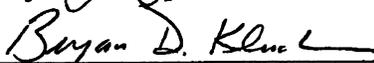
Traffic will be detoured off-site during construction (see Figure 1).

Categorical Exclusion Action Classification:

<u>      </u>	TYPE II(A)
<u>  X  </u>	TYPE II(B)

Approved:

<u>5-4-11</u>	
Date	Project Planning Engineer Project Development & Environmental Analysis Branch

<u>5-5-11</u>	
Date	Project Engineer Project Development & Environmental Analysis Branch

<u>5/5/11</u>	
Date	Bridge Project Development Engineer Project Development & Environmental Analysis Branch

For Type II(B) projects only:

<u>5/5/11</u>	
Date	John F. Sullivan, III, PE, Division Administrator Federal Highway Administration

## **PROJECT COMMITMENTS:**

**Rockingham County  
Bridge No. 13 on SR 2344 over Troublesome Creek  
Federal Aid Project No. BRZ-2344(1)  
W.B.S. No. 41553.1.1  
T.I.P. No. B-4864**

All standard procedures and measures, including NCDOT's Best Management Practices for Protection of Surface Waters, Guidelines for Best Management Practices for Bridge Demolition and Removal, will be implemented, as applicable, to avoid or minimize environmental impacts. The following special commitments have been agreed to by NCDOT:

### ***Division 7 Construction:***

In order to allow Emergency Management Services (EMS) time to prepare for road closure, the NCDOT Resident Engineer will notify the Director of the Rockingham County EMS at (336) 634-3004 of the bridge removal 30 days prior to road closure.

In order to allow Rockingham County Schools to prepare for road closure, the NCDOT Resident Engineer will notify the Transportation Director at (336) 634-3275 of the bridge removal 30 days prior to road closure.

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.

### ***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).





Bridge Construction CFY 2012 Projects

SHPO Number	TIP	Project	County	Division	Project Engineer	Archaeological Survey	Architectural Survey
ER 08-2552	B-4804	Bridge 12 on SR 2343 over Troublesome Creek	Rockingham	7	G. Blakeney	NO	NO
ER 08-2553	B-4864	Bridge 13 on SR 2344 over Troublesome Creek	Rockingham	7	G. Blakeney	NO	NO
ER 08-2557	B-4963	Bridge 32 on SR 2361 over Jacob's Creek	Rockingham	7	G. Blakeney	NO	NO

NOV 14 2008

*Peter B. Sanderson*

1/2/09

RECEIVED  
 Division of Highways  
 FEB - 4 2009  
 Transportation  
 Project Development and  
 Environmental Analysis Branch