



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

June 27, 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 Coordinator

Dear Sir:

Subject: **Application for Section 404 Nationwide Permit 23, Section 401 Water Quality Certification, and Jordan Lake Watershed Riparian Buffer Authorization** for the replacement of Bridge No. 3 over Unnamed Tributary (UT) to Troublesome Creek on SR 2409 (Boyd Road) in Rockingham County, Federal Aid Project No. BRZ-2409(1), Division 7, T.I.P No. B-4806.

Debit \$240.00 from WBS No. 38576.1.1

The North Carolina Department of Transportation (NCDOT) proposes to replace bridge No. 3 over UT to Troublesome Creek on SR 2409 (Boyd Road) in Rockingham County.

An offsite detour will be used during construction. Wetland impacts will include less than 0.01 acres of fill and 0.01 acres of hand clearing requiring no mitigation.

Please see the enclosed copies of the Pre-Construction Notification (PCN), stormwater management plan, permit drawings, buffer drawings, and design plans for the above-referenced project. The Categorical Exclusion (CE) for this project was completed in December 2010. Additional copies are available upon request.

The let date for the project is April 16, 2013 with a review date of February 26, 2013. However, the let date may advance as additional funds become available.

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

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

TELEPHONE: 919-707-6000
FAX: 919-212-5785
WEBSITE: WWW.NCDOT.ORG

LOCATION:
Century Center Building B
1020 Birch Ridge Drive
Raleigh, NC 27610

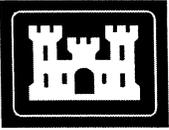
Thank you for your assistance with this project. If you have any questions or need additional information, please contact Greg Price at gwprice@ncdot.gov or (919) 707-6148.

Sincerely,

A handwritten signature in black ink that reads "E. L. Fush". The signature is written in a cursive style with a large, looped "E" and a distinct "Fush" ending.

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: 23 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 <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input checked="" type="checkbox"/> Riparian Buffer Authorization		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: <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 type="checkbox"/> Yes	<input checked="" 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. 3 on SR 2409 (Boyd Road) over UT to Troublesome Creek
2b. County:	Rockingham
2c. Nearest municipality / town:	Reidsville
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-4806

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) 707-6148
3g. Fax no.:	(919) 212-5785
3h. Email address:	gwprice@ncdot.gov

4. Applicant Information (if different from owner)	
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:	
5. Agent/Consultant Information (if applicable)	
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. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 36.323393 (DD.DDDDDD) Longitude: - 79.730591 (-DD.DDDDDD)
1c. Property size:	0.8 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	UT to Troublesome Creek
2b. Water Quality Classification of nearest receiving water:	WSIII; NSW
2c. River basin:	Cape Fear
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: Land use in the project vicinity is primarily agriculture, interspersed with residential development and forestland.	
3b. List the total estimated acreage of all existing wetlands on the property: 0.02	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 100	
3d. Explain the purpose of the proposed project: To replace a structurally deficient bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 3-span 53-foot bridge with a 1-span 80-foot bridge on the existing bridge location with an offsite detour. The new bridge will be of sufficient width to provide for two 11-foot lanes with 4-foot offsets on each side. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments: perennial stream and wetland	<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? Andy Williams conducted field visit on 5/15/09; no JD received to date.	<input type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): Adam Efird	Agency/Consultant Company: PBS&J (now Atkins) Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. Never received USACE JD.	
5. Project History	
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.	
6. Future Project Plans	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

C. Proposed Impacts Inventory

1. Impacts Summary

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

- Wetlands Streams - tributaries Buffers
 Open Waters Pond Construction

2. Wetland Impacts

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

2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill	Bottomland Hardwood Forest	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	<0.01
Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Erosion Control	Bottomland Hardwood Forest	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	<0.01
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
2g. Total wetland impacts					<0.01 Perm <0.01 Temp

2h. Comments: Also 0.01 acres of hand clearing with <0.01 acre temporary fill in the hand clearing areas for erosion control".

3. Stream Impacts

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

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
<input type="checkbox"/> P <input type="checkbox"/>			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
3h. Total stream and tributary impacts						

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				
4f. Total open water impacts				

4g. Comments:

5. Pond or Lake Construction

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

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

5g. Comments:

5h. Is a dam high hazard permit required?	<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 <input type="checkbox"/> Catawba	<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman	<input checked="" type="checkbox"/> Other: Jordan
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	Bridge	UT Troublesome Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2918	259
B1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Road crossing	UT Troublesome Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	456	1784
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
6h. Total buffer impacts				3374	2043
6i. Comments: All buffer impacts are allowable.					

D. Impact Justification and Mitigation**1. Avoidance and Minimization**

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

The proposed bridge replacement will take place on existing alignment and is longer, completely spanning the UT to Troublesome Creek. The number of bents in water will be reduced from 2 bents to 0 bents. Temporary access in the UT to Troublesome Creek is not necessary to remove existing bridge or to construct the proposed bridge. An offsite detour will be used.

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

NCDOT will use Best Management Practices for Bridge Demolition and Removal as well as Best Management Practices for the Protection of Surface Waters. Design Standards in Sensitive Watersheds will also be used.

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

2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?

Yes No

If no, explain: Impacts are minimal and less than 0.01 acres.

2b. If yes, mitigation is required by (check all that apply):

DWQ Corps

2c. If yes, which mitigation option will be used for this project?

Mitigation bank
 Payment to in-lieu fee program
 Permittee Responsible Mitigation

3. Complete if Using a Mitigation Bank

3a. Name of Mitigation Bank: not applicable

3b. Credits Purchased (attach receipt and letter)

Type

Quantity

3c. Comments:

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

4a. Approval letter from in-lieu fee program is attached.

Yes

4b. Stream mitigation requested:

4c. If using stream mitigation, stream temperature:

warm cool cold

4d. Buffer mitigation requested (DWQ only):

4e. Riparian wetland mitigation requested:

acres

4f. Non-riparian wetland mitigation requested:

acres

4g. Coastal (tidal) wetland mitigation requested:

acres

4h. Comments:

5. Complete if Using a Permittee Responsible Mitigation Plan

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

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?				<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:				
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	<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
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	<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
4. DWQ Stormwater Program Review	
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 checked="" type="checkbox"/> No
5. DWQ 401 Unit Stormwater Review	
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

F. Supplementary Information	
1. Environmental Documentation (DWQ Requirement)	
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	<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
2. Violations (DWQ Requirement)	
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	<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):	
3. Cumulative Impacts (DWQ Requirement)	
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	<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.	
4. Sewage Disposal (DWQ Requirement)	
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. not applicable	

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat? Habitat for <i>Echinacea laevigata</i>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts? No effect: A recent survey occurred 5/24/12.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input 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? USFWS county list and NCNHP database along with field surveys.		
6. Essential Fish Habitat (Corps Requirement)		
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		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<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		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input type="checkbox"/> Yes	<input checked="" 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.)	6-27-12 Date



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



(Version 1.2; Released September 2011)

Project/TIP No.: B-4806 County(ies): Rockingham

General Project Information	
Project No.:	B-4806
Contractor / Designer:	Paul Atkinson, PE
Address:	1020 Birch Ridge Drive Raleigh, NC 27610
Phone:	919-707-6754
Email:	
City/Town:	Reidsville
River Basin(s):	Cape Fear
Primary Receiving Water:	Troublesome Creek
NCDWQ Surface Water Classification for Primary Receiving Water	Primary: Water Supply III (WS-III) Supplemental: Nutrient Sensitive Waters (NSW)
Other Stream Classification:	
303(d) Impairments:	None
Buffer Rules in Effect	Jordan Lake
Project Description	
Project Length (lin. Miles or feet):	0.067 miles
Project Built-Upon Area (ac.)	0.08 AC INCREASE IN IMPERVIOUS AREA ac.
Typical Cross Section Description:	34' ROAD SHOULDER SECTION; 2 11' LANES, 6' TO 9' SHOULDERS; 30.5' BRIDGE 19' ROAD SHOULDER SECTION. EXISTING BRIDGE: 2 LANE, 24' CURB TO ROAD RAIL TO RAIL; 2 11' LANES, 4.25' SHOULDERS.
Average Daily Traffic (veh/hr/day):	Design/Future: ADT 2035= 1300 VPD
General Project Narrative:	Replace existing 3 span bridge with one span 80' 33" box beam bridge at existing location. Off-site detour required. This project has storm drainage system collecting a small amount of bridge/road discharge which will be dissipated by a rip rap pad. There are no ditches associated with this project. There are minimal permanent wetland impacts and no surface water impacts.
Surrounding Land Use:	RURAL, FORESTED, AGRICULTURE, RESIDENTIAL DEVELOPMENT ALONG ROADWAYS
Proposed Project	
Existing Site	

References

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4806	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38576.1.1	BRZ-2409(1)	PE	
38576.2.1	BRZ-2409(1)	RW & UTILITIES	
38576.3.1	BRZ-2409(1)	CONSTRUCTION	

Rockingham County

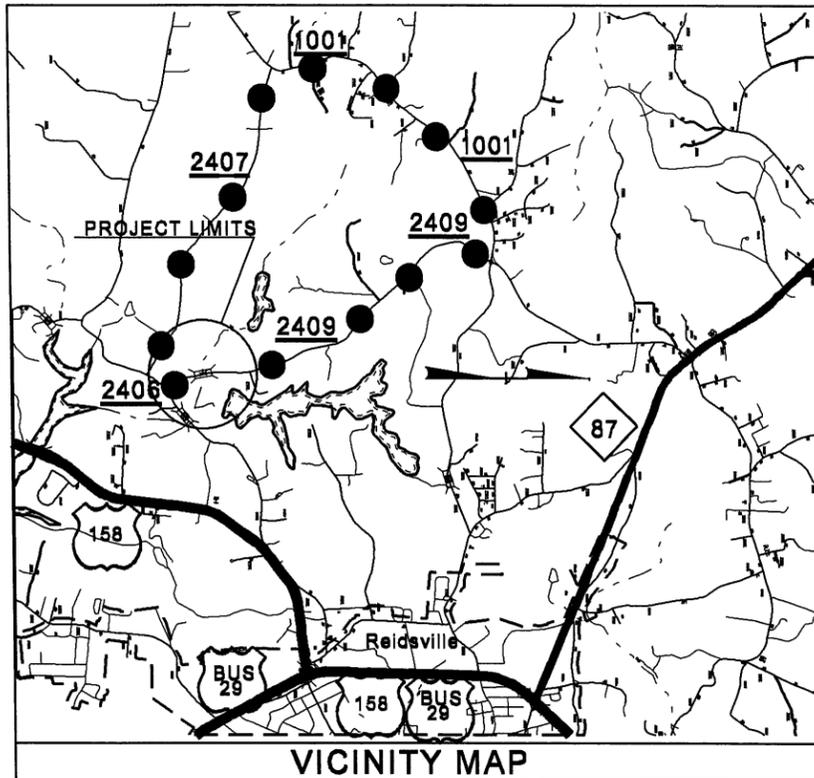
Permit Drawing
Sheet 1 of 6

LOCATION: Bridge #3 over Troublesome Creek Tributary
on SR 2409 (Boyd Road)

**WETLAND & SURFACE WATER
PERMIT DRAWING**

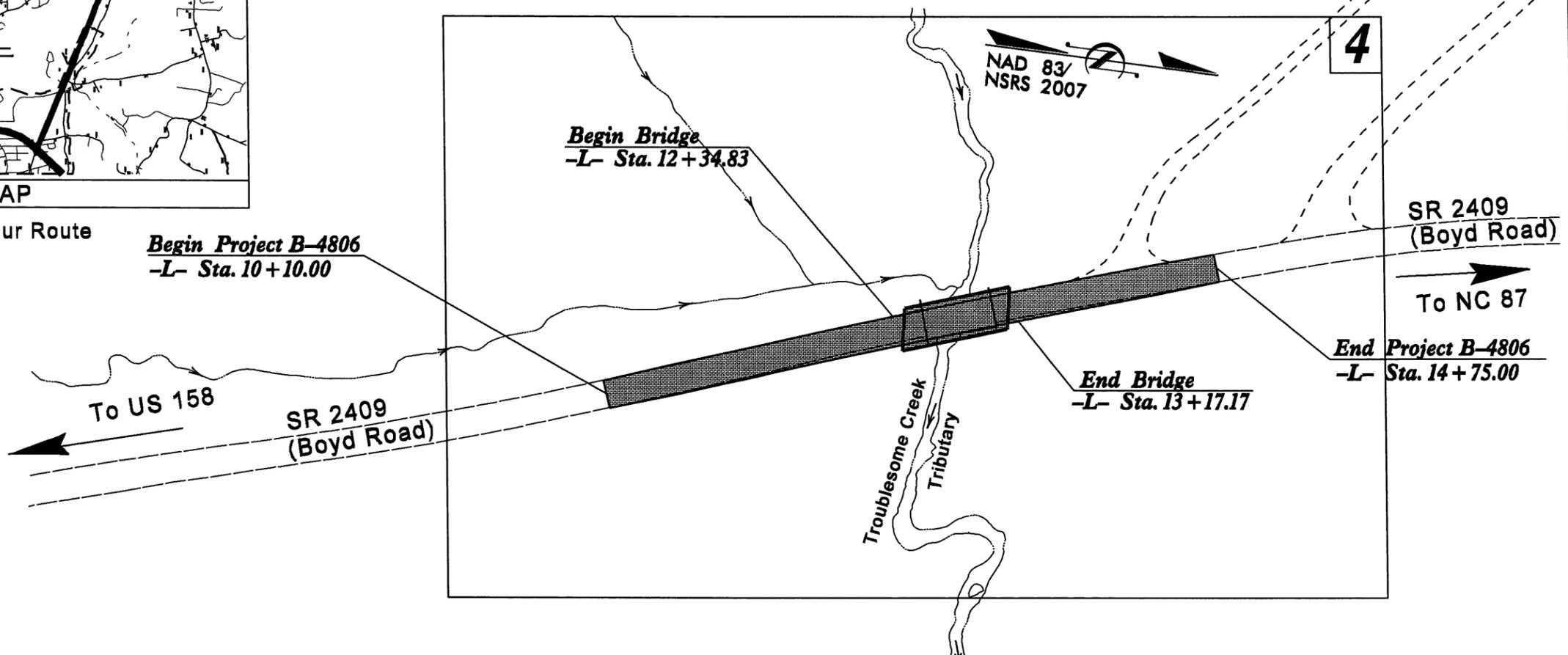
TYPE OF WORK: Grading, Drainage, Paving and Structure

TIP PROJECT: B-4806



●●●●● Offsite Detour Route

VICINITY MAP



Begin Project B-4806
-L- Sta. 10+10.00

Begin Bridge
-L- Sta. 12+34.83

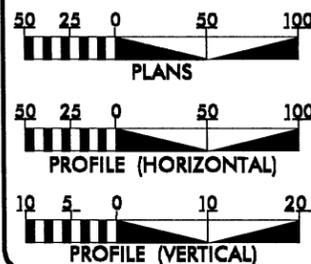
End Bridge
-L- Sta. 13+17.17

End Project B-4806
-L- Sta. 14+75.00

THIS PROJECT IS NOT WITHIN THE BOUNDARIES OF ANY MUNICIPALITY
CLEARING AND GRUBBING ON THIS PROJECT SHOULD BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 11.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2012 = 1035 vpd
ADT 2035 = 1300 vpd
DHV = 12 %
D = 65 %
T = 4 % *
V = 35 MPH
* TTST 1% DUAL 3%
Functional Class.
Rural Local
Sub Regional Tier

PROJECT LENGTH

Total Length Roadway TIP Project B-4806 = 0.072 Miles
Total Length Structure TIP Project B-4806 = 0.016 Miles
Total Length TIP Project B-4806 = 0.088 Miles

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
February 1, 2012

LETTING DATE:
April 16, 2013

James Spear, PE
PROJECT ENGINEER

John Lansford, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

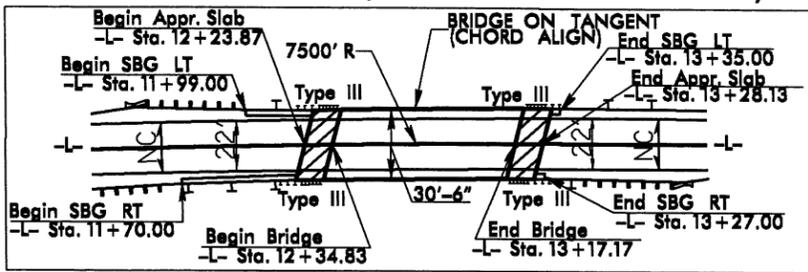


\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

CONTRACT:

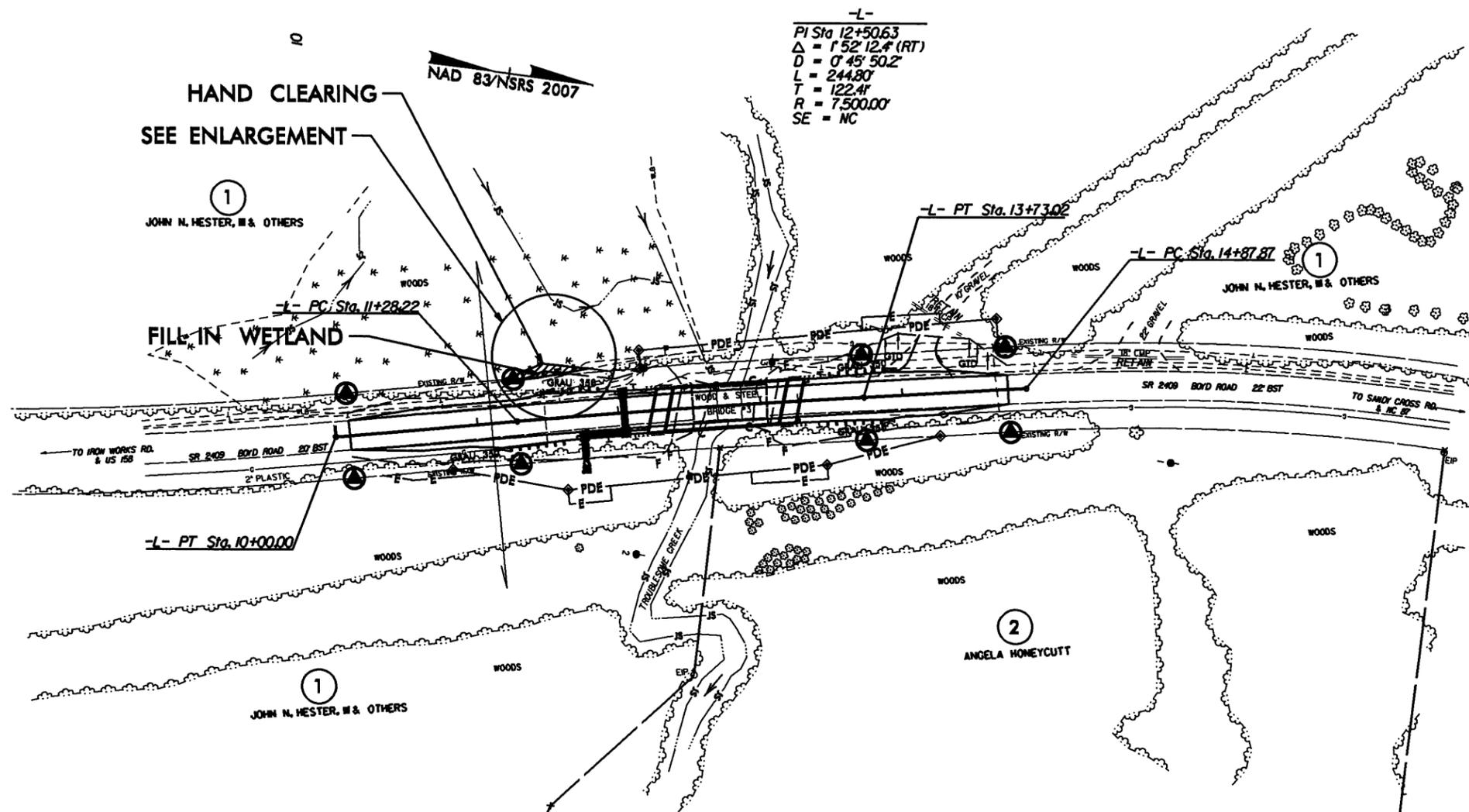
5/14/99

Sketch Showing Relationship Between Structure and Roadway



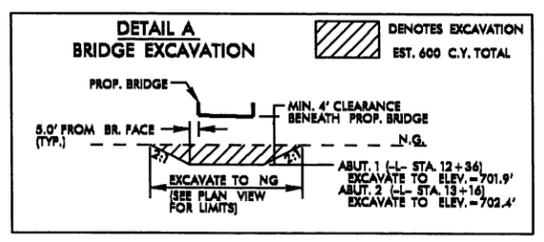
PROJECT REFERENCE NO. B-4806	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Permit Drawing Sheet 2 of 6

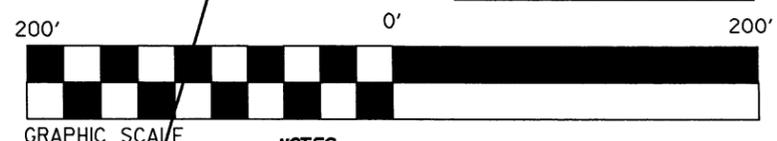


GTD = "Grade to Drain"

WETLAND & SURFACE WATER PERMIT DWG.

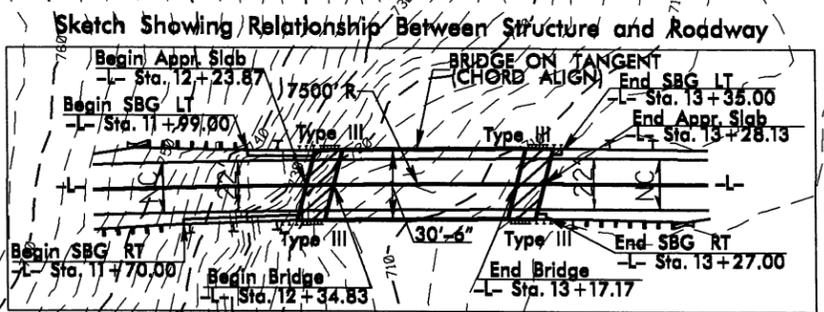


DENOTES HAND CLEARING
 DENOTES FILL IN WETLAND

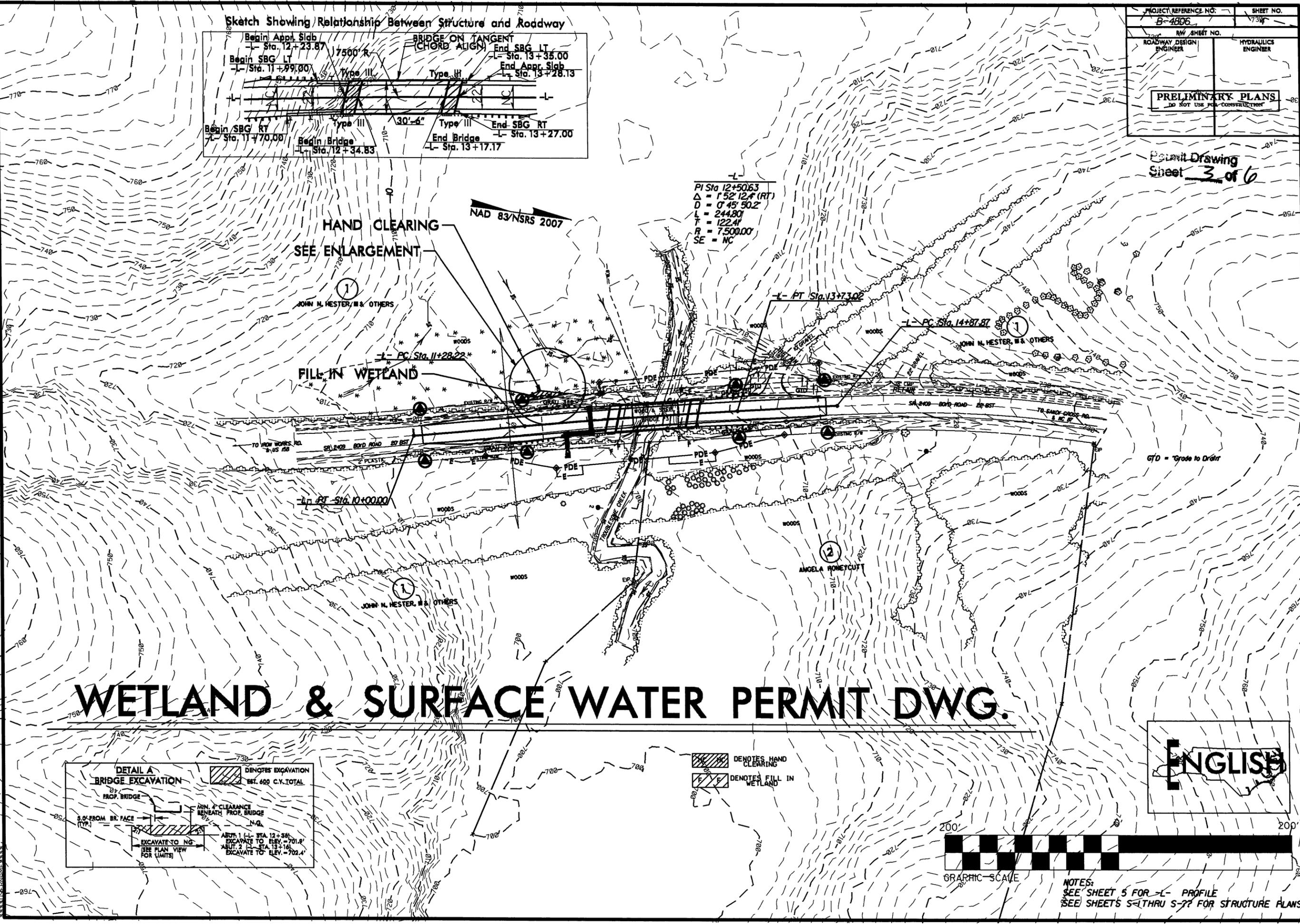


NOTES:
 SEE SHEET 5 FOR -L- PROFILE
 SEE SHEETS S-1 THRU S-?? FOR STRUCTURE PLANS

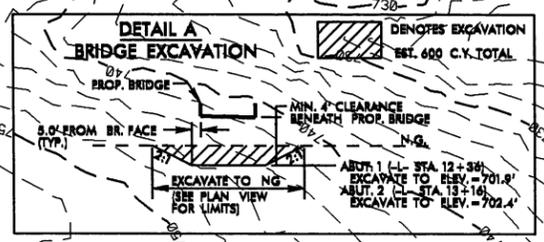
PROJECT REFERENCE NO. B-4806	SHEET NO. 739
RDW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



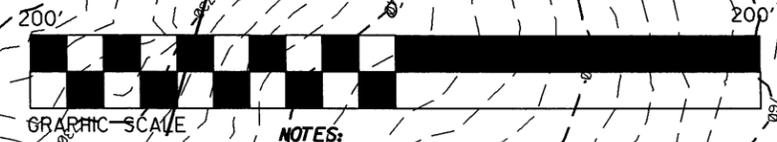
PI Sta 12+50.63
 $\Delta = 1' 52' 12''$ (RT)
 $D = 0' 45' 50.2''$
 $L = 244.80'$
 $T = 122.40'$
 $R = 7,500.00'$
 $SE = NC$



WETLAND & SURFACE WATER PERMIT DWG.



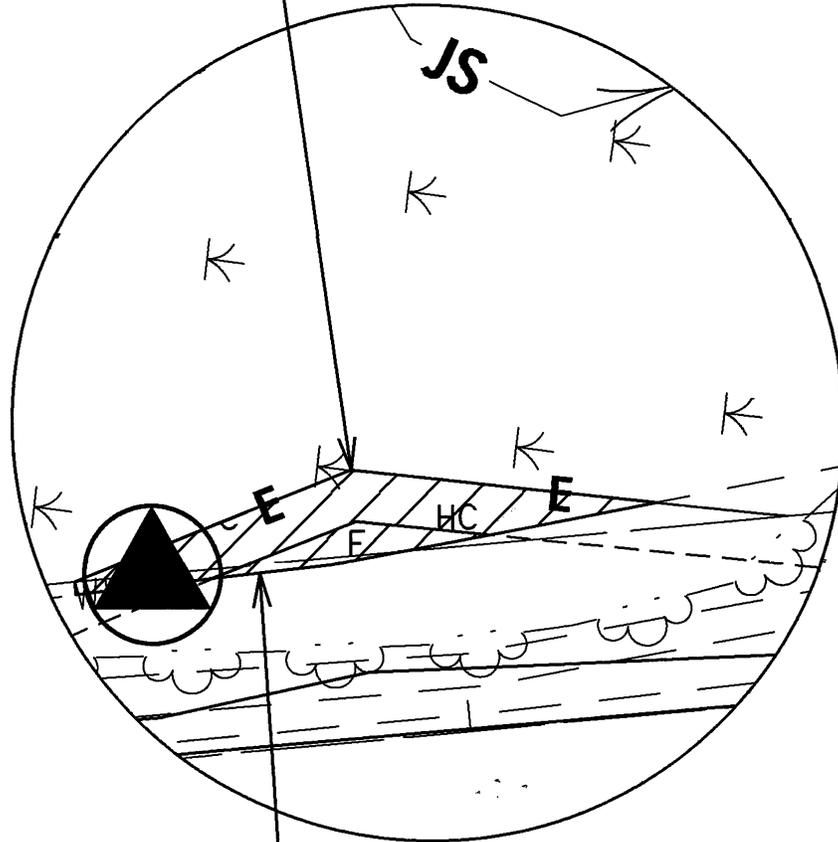
DENOTES HAND CLEARING
 DENOTES FILL IN WETLAND



NOTES:
 SEE SHEET 5 FOR L- PROFILE
 SEE SHEETS 5-THRU 5-?? FOR STRUCTURE PLANS

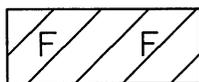
ENGLISH

**HAND
CLEARING**



FILL IN WETLAND

SITE ENLARGEMENT



DENOTES FILL IN WETLAND



DENOTES HAND CLEARING



GRAPHIC SCALE

NCDOT
DIVISION OF HIGHWAYS

ROCKINGHAM COUNTY
PROJECT: 38576.1.1 (B-4806)
BRIDGE #3 OVER
TROUBLESOME CREEL TRIBUTARY
ON SR 2409 (BOYD ROAD)

SHEET 4 OF 6

05/08/12

PROPERTY OWNERS
NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	John Hester & Elizabeth Scott	4511 Deertail Dr., Richmond, VA 23234
2	Angela Honeycutt	P.O. Box 309, Blairs, VA 24527

NCDOT
DIVISION OF HIGHWAYS

ROCKINGHAM COUNTY
PROJECT: 38576.1.1 (B-4806)
BRIDGE #3 OVER
TROUBLESOME CREEK TRIBUTARY
ON SR 2409 (BOYD ROAD)

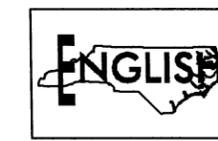
WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS								
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)				
	-L- 11+35		<0.01					0.01								
TOTALS:			<0.01					0.01								

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 WBS - 38576.1.1 (B-4806)
 SHEET *6 of 6* 5/8/2012

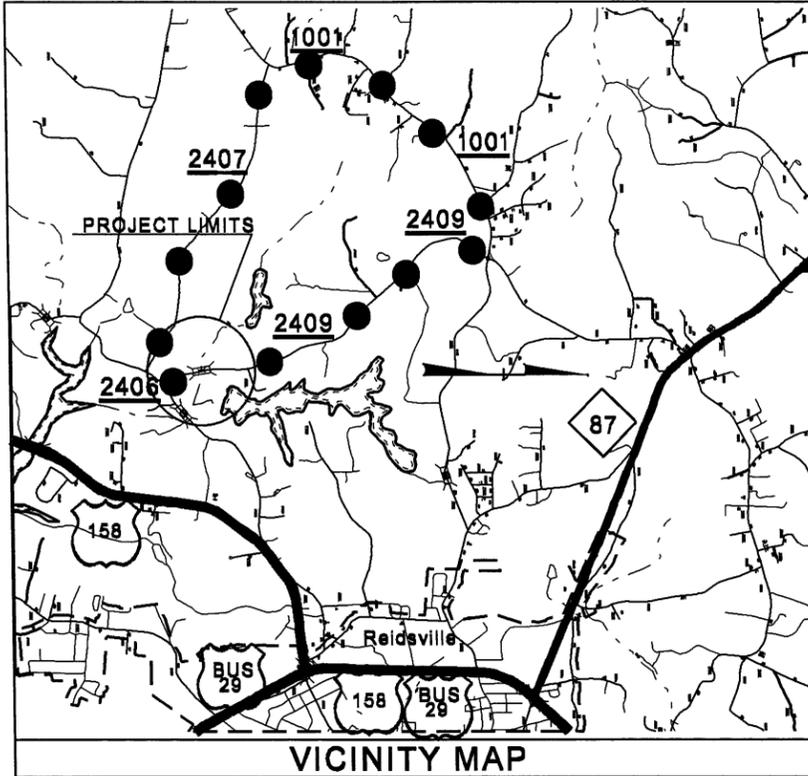
See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4806	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38576.1.1	BRZ-2409(1)	PE	
38576.2.1	BRZ-2409(1)	RW & UTILITIES	
38576.3.1	BRZ-2409(1)	CONSTRUCTION	

TIP PROJECT: B-4806



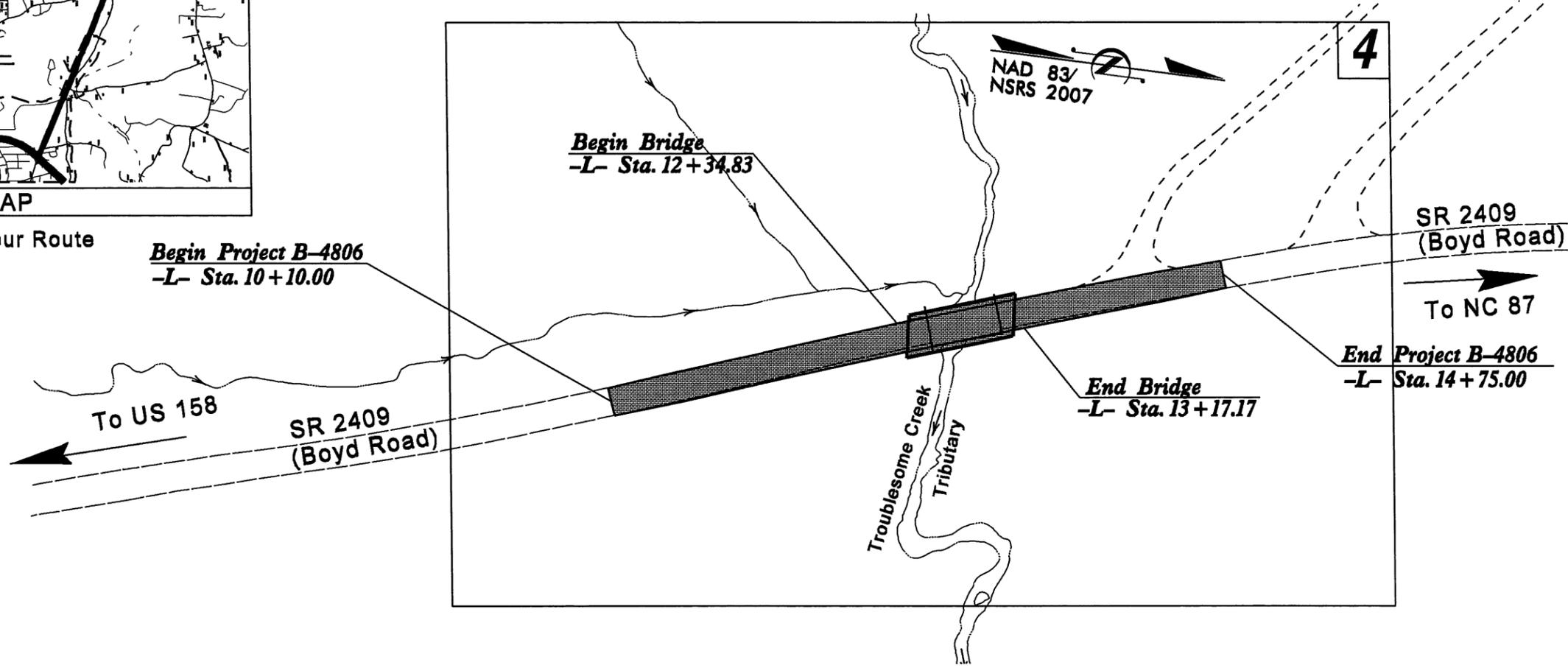
●●●●● Offsite Detour Route

LOCATION: Bridge #3 over Troublesome Creek Tributary on SR 2409 (Boyd Road)

TYPE OF WORK: Grading, Drainage, Paving and Structure

Buffer Drawing Sheet 1 of 4

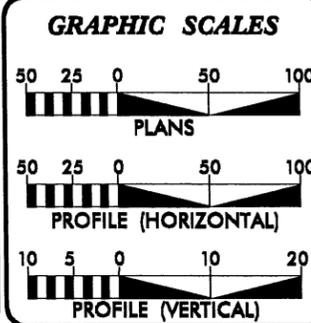
BUFFER PERMIT DRAWINGS



THIS PROJECT IS NOT WITHIN THE BOUNDARIES OF ANY MUNICIPALITY CLEARING AND GRUBBING ON THIS PROJECT SHOULD BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 11.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2012 = 1035 vpd
ADT 2035 = 1300 vpd
DHV = 17 %
D = 65 %
T = 4 % *
V = 35 MPH
* TTST 1% DUAL 3%
Functional Class.
Rural Local
Sub Regional Tier

PROJECT LENGTH

Total Length Roadway TIP Project B-4806 = 0.072 Miles
Total Length Structure TIP Project B-4806 = 0.016 Miles
Total Length TIP Project B-4806 = 0.088 Miles

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

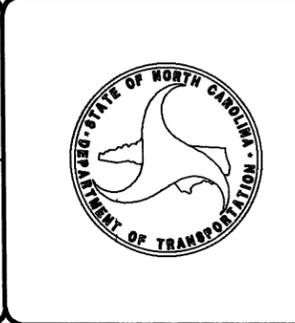
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: February 1, 2012	James Speer, PE PROJECT ENGINEER
LETTING DATE: April 16, 2013	John Lansford, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

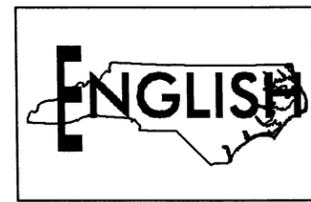
ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

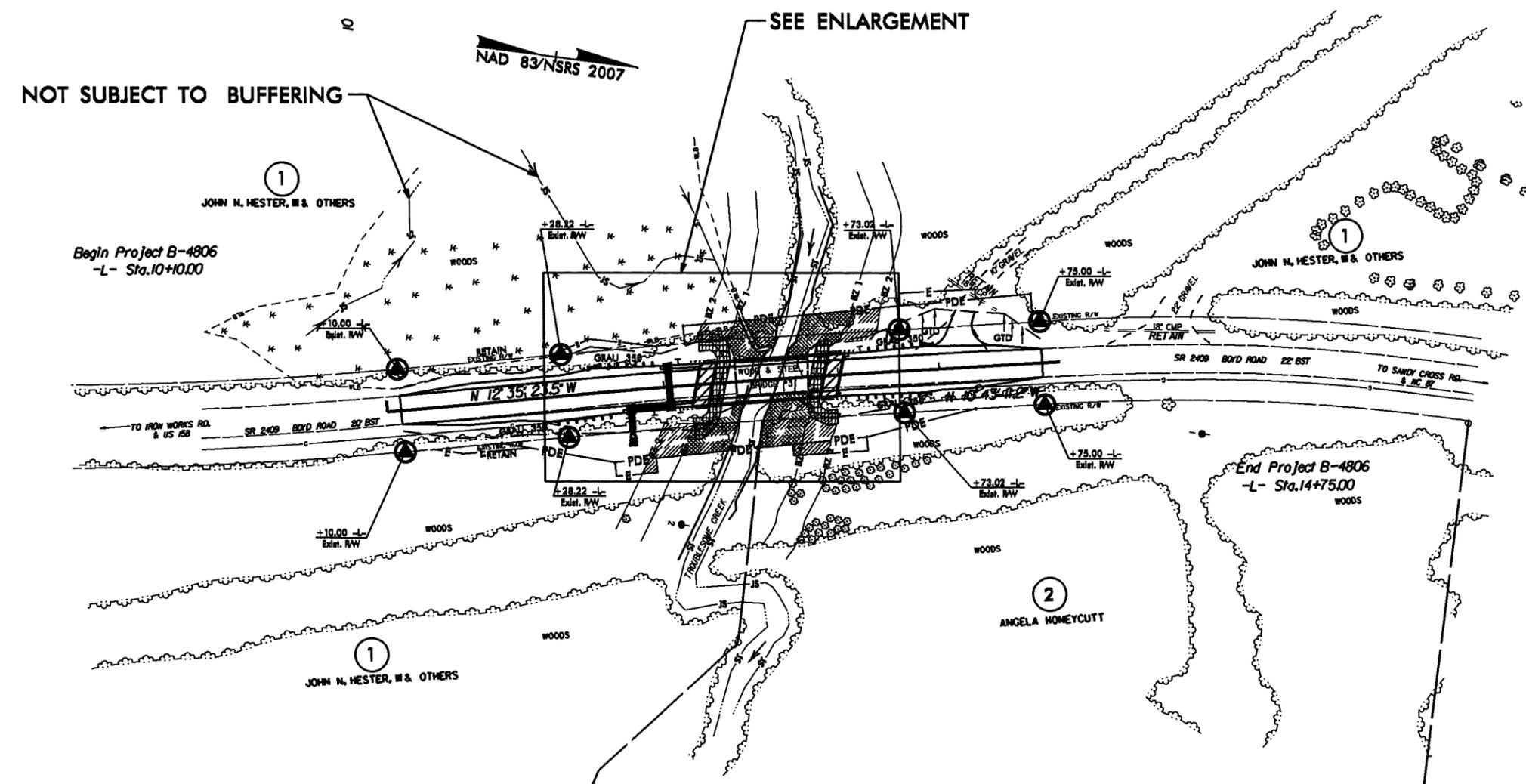
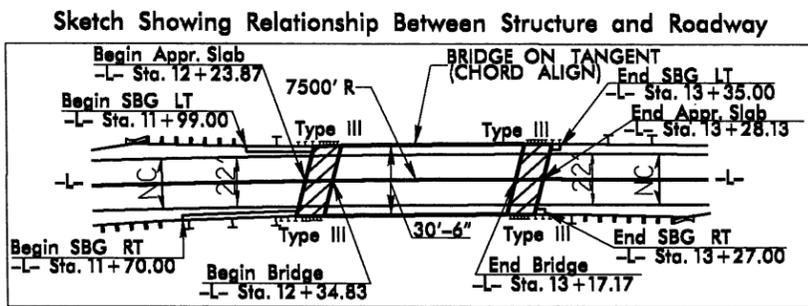


\$\$\$SYTIME\$\$\$\$\$
 \$\$\$DCGN\$\$\$\$\$
 \$\$\$USERNAME\$\$\$\$\$

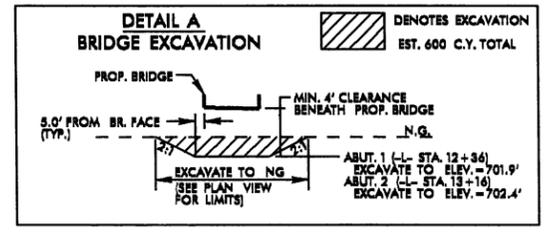
PROJECT REFERENCE NO. B-4806	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Buffer Drawing
Sheet 2 of 4

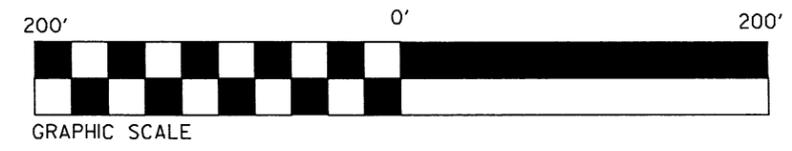


BUFFER PERMIT DWG.



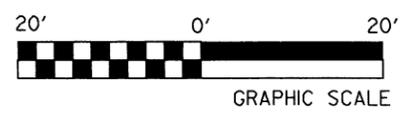
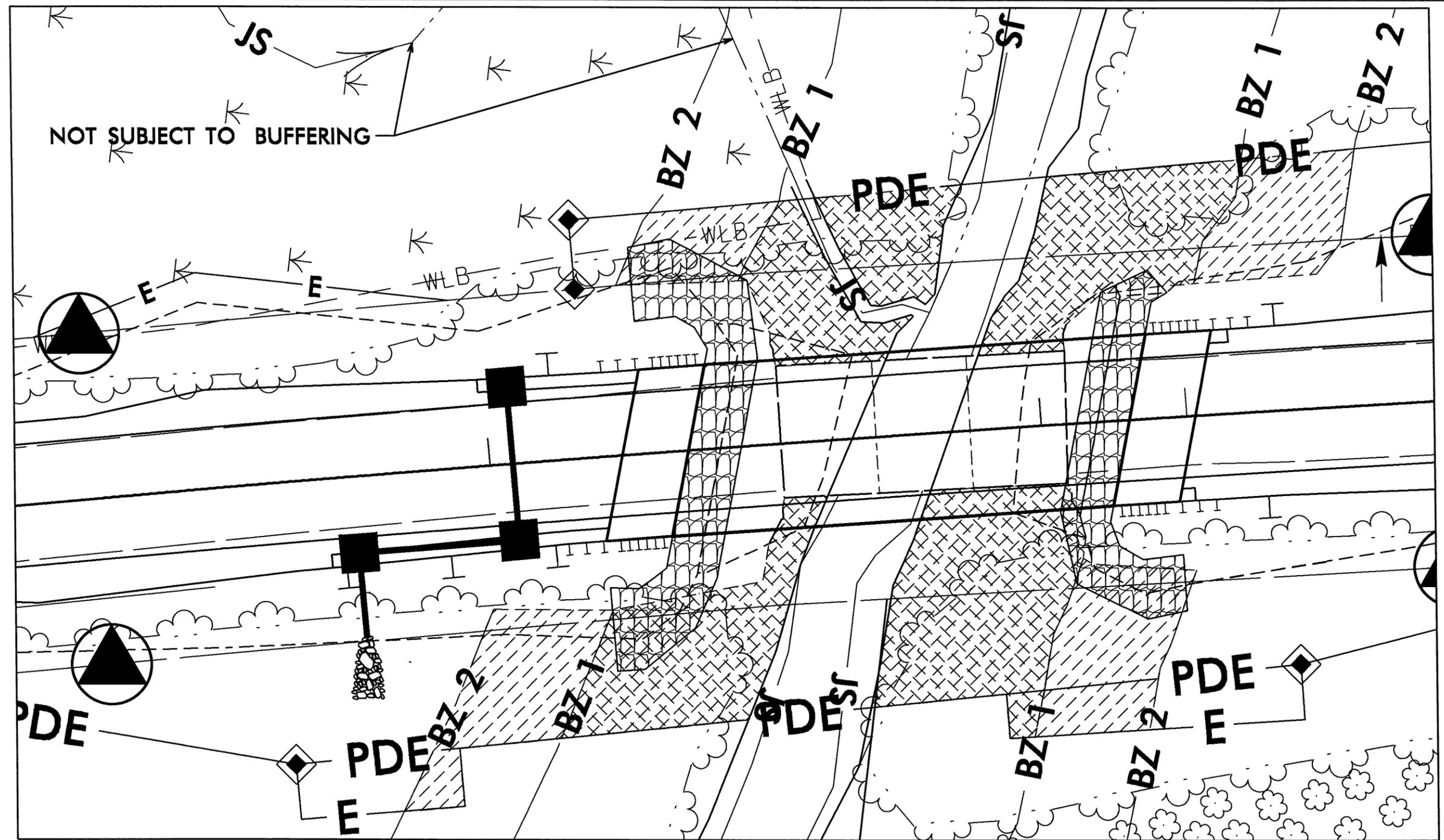
LEGEND

	ALLOWABLE IMPACTS ZONE 1
	ALLOWABLE IMPACTS ZONE 2



NOTES:
SEE SHEET 5 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-?? FOR STRUCTURE PLANS

5/14/99



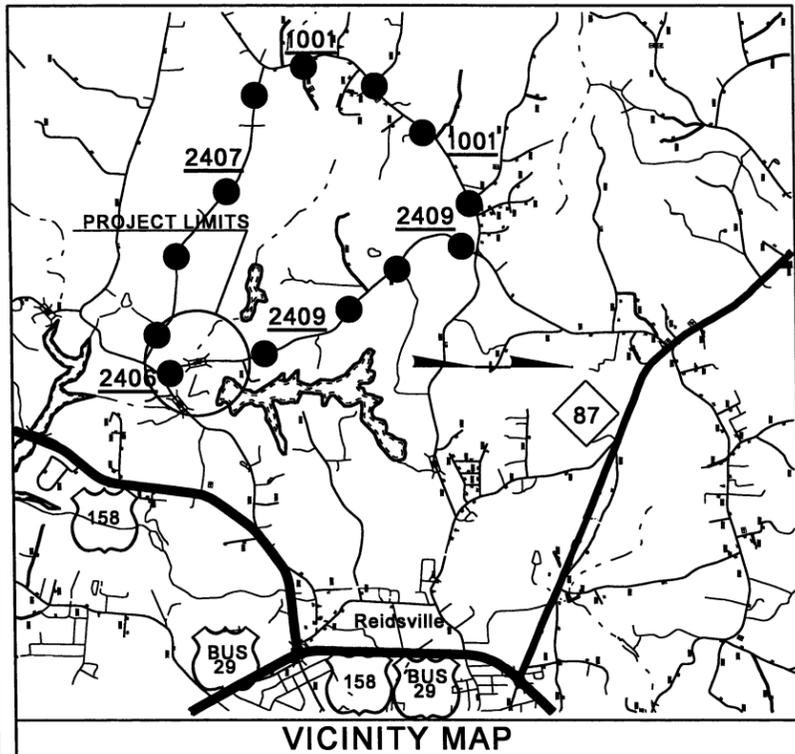
BUFFER ENLARGEMENT

- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2

NCDOT
 DIVISION OF HIGHWAYS
 ROCKINGHAM COUNTY
 PROJECT: 38576.1.1 (B-4806)
 BRIDGE #3 OVER
 TROUBLESOME CREEL TRIBUTARY
 ON SR 2409 (BOYD ROAD)
 SHEET 3 OF 4 05/08/12

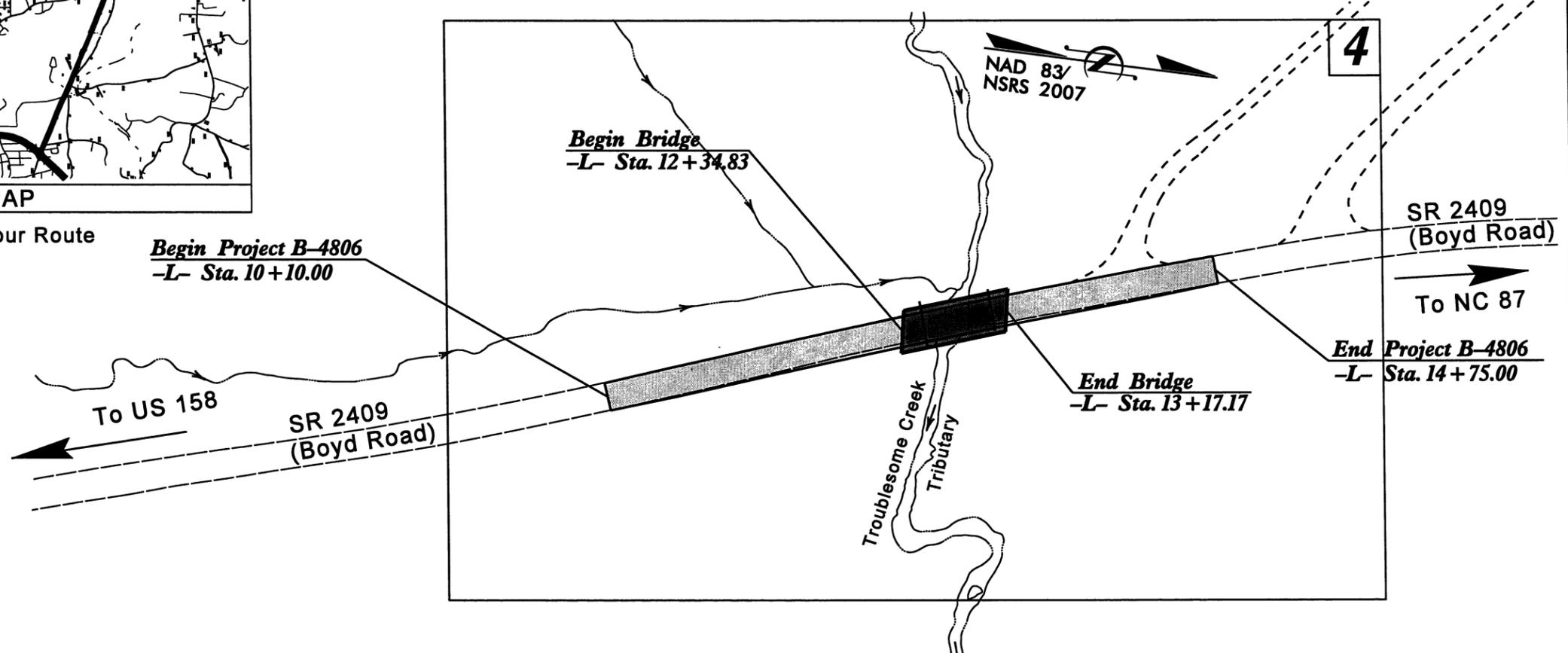
05/08/19

See Sheet 1-A For Index of Sheets



●●●●● Offsite Detour Route

Begin Project B-4806
-L- Sta. 10+10.00



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

Rockingham County

LOCATION: Bridge #3 over Troublesome Creek Tributary
on SR 2409 (Boyd Road)

TYPE OF WORK: Grading, Paving, Drainage and Structure

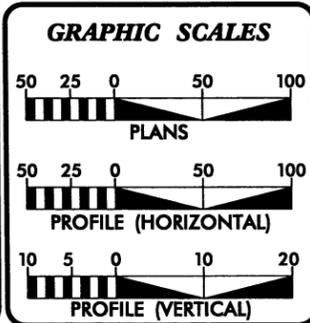
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4806	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38576.1.1	BRZ-2409(1)	PE	
38576.2.1	BRZ-2409(1)	R/W & UTILITIES	

THIS PROJECT IS NOT WITHIN THE BOUNDARIES OF ANY MUNICIPALITY
CLEARING AND GRUBBING ON THIS PROJECT SHOULD BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 11.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT: TIP PROJECT: B-4806

CONTRACT: TIP PROJECT: B-4806



DESIGN DATA

ADT 2012 = 1035 vpd
ADT 2035 = 1300 vpd
DHV = 17 %
D = 65 %
T = 4 % *
V = 35 MPH
* TTST 1% DUAL 3%
Functional Class. Rural Local
Sub Regional Tier

PROJECT LENGTH

Total Length Roadway TIP Project B-4806 = 0.072 Miles
Total Length Structure TIP Project B-4806 = 0.016 Miles
Total Length TIP Project B-4806 = 0.088 Miles

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

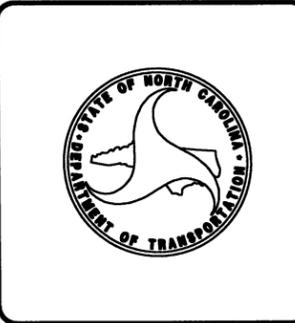
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: February 1, 2012	James Speer, PE PROJECT ENGINEER
LETTING DATE: April 16, 2013	John Lansford, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



31-JAN-2012 11:08
P:\Projects\104806_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	-----
Property Monument	□
Parcel/Sequence Number	②
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-----
Proposed Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ☠

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG 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	-----
Buffer Zone 1	-----
Buffer Zone 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 CA 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	XXXX
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 UG Power Line	-----
Designated UG 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 UG Telephone Cable	-----
Designated UG Telephone Cable (S.U.E.*)	-----
Recorded UG Telephone Conduit	-----
Designated UG Telephone Conduit (S.U.E.*)	-----
Recorded UG Fiber Optics Cable	-----
Designated UG Fiber Optics Cable (S.U.E.*)	-----

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊕
Water Hydrant	⊕
Recorded UG Water Line	-----
Designated UG Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

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

GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded UG Gas Line	-----
Designated UG 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:

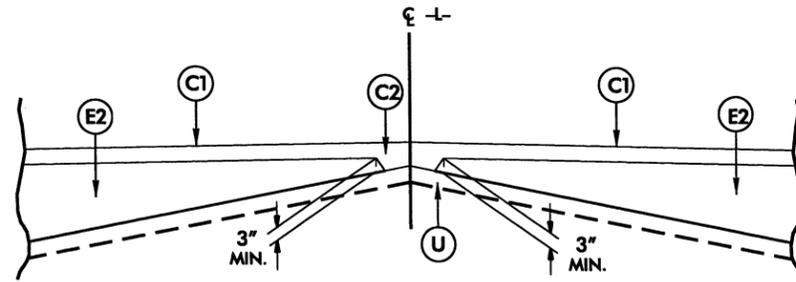
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown UG Line	-----
UG Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
AG Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
UG Test Hole (S.U.E.*)	⊕
Abandoned According to Utility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

5/14/99

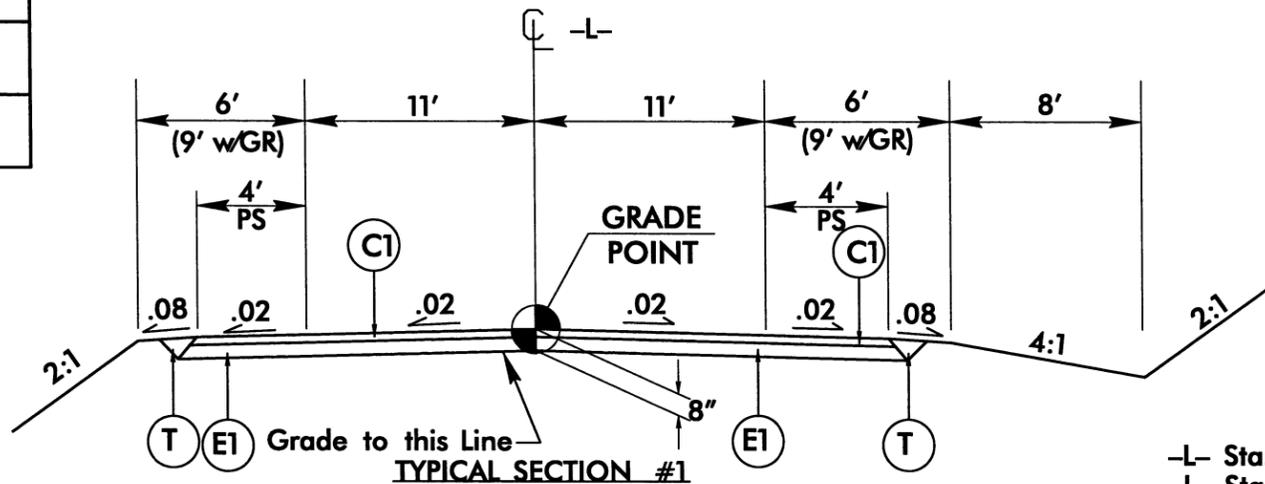
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS PER SQ. YARD IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS PER SQ. YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS PER SQ. YARD
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
R	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

ALL PAVEMENT SLOPES ARE 1/4" UNLESS OTHERWISE NOTED

PROJECT REFERENCE NO. B-4806	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



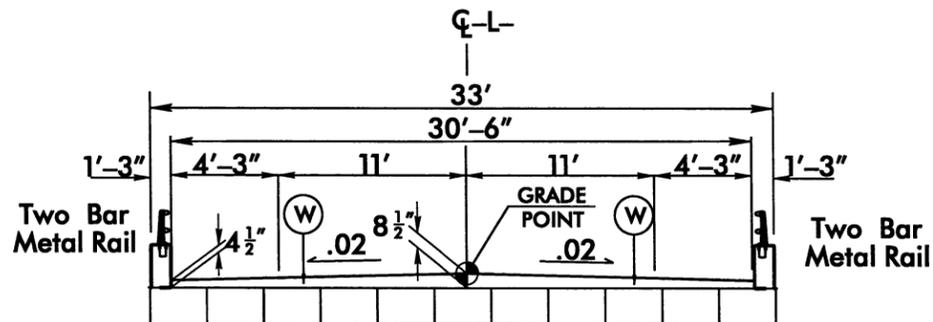
Detail Showing Method of Wedging



TYPICAL SECTION #1

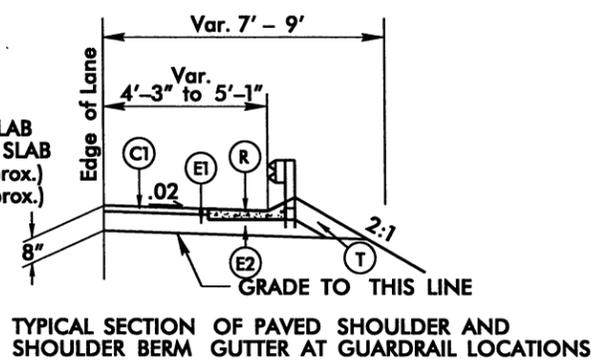
USE TYPICAL SECTION #1

-L- Sta. 10+10.00 to -L- Sta. 12+34.83 (Begin Bridge)
-L- Sta. 13+17.17 (End Bridge) to -L- Sta. 14+75.00



TYPICAL SECTION BRIDGE
(11 BOX BEAM UNITS = 33' OUT TO OUT)

USE SHOULDER BERM GUTTER
LEFT: -L- Sta. 11+99 to BEGIN APPR. SLAB
RIGHT: -L- Sta. 11+90 to BEGIN APPR. SLAB
LEFT: END APPR. SLAB to -L- Sta. 13+47.00 (3' approx.)
RIGHT: END APPR. SLAB to -L- Sta. 13+27.00 (3' approx.)

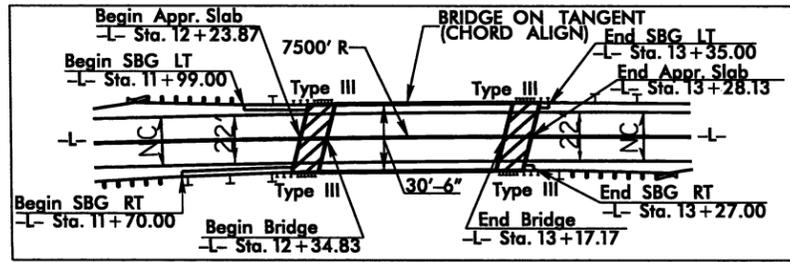


TYPICAL SECTION OF PAVED SHOULDER AND SHOULDER BERM GUTTER AT GUARDRAIL LOCATIONS

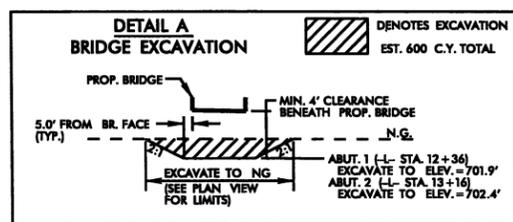
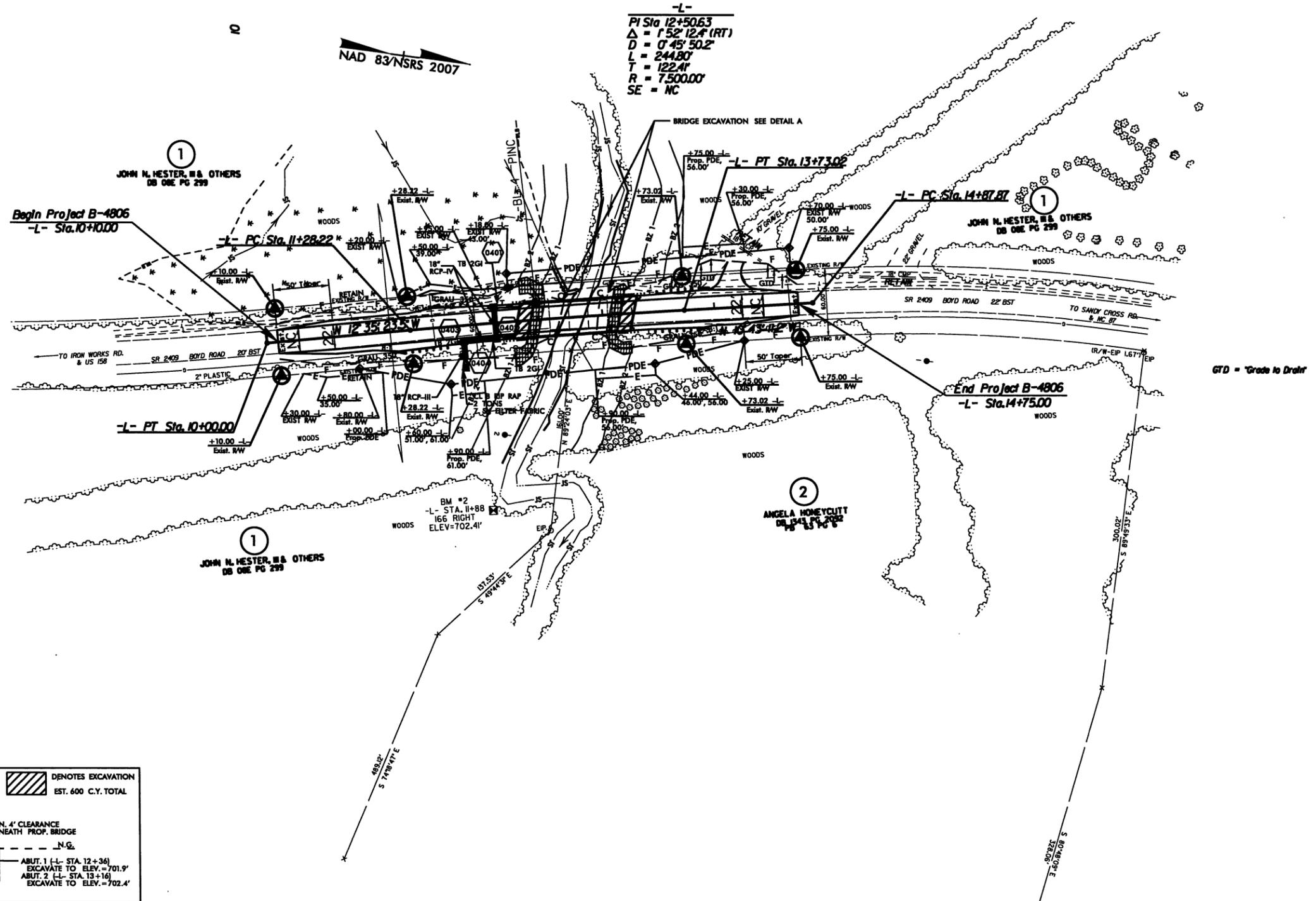
21 JAN-2012 10:08 \\b-4806-rdy-tp.dgn
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5/14/99

Sketch Showing Relationship Between Structure and Roadway



PROJECT REFERENCE NO. B-4806	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



NOTES:
SEE SHEET 5 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-?? FOR STRUCTURE PLANS

21 JAN 2012 11:08 AM B:\B06-rdy_psh4.dgn
 11:08 AM 1/21/12

5/14/99

PROJECT REFERENCE NO. B-4806	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-L-

BM1 ELEVATION = 735.86'
N 93°57'25" E 17845.44'
IN STATION 5+70.00 21' LEFT
RR SPIKE IN ROOT OF 33' OAK

BM2 ELEVATION = 702.41'
N 93°39'2" E 17847.86'
L STATION 11+88.00 166' RIGHT
RR SPIKE IN ROOT OF 15' SWEET GUM

CL STA -L- 12+76
PROP. 1@80'
33" BOX BEAM
PROP. GRADE = 709.41'
SKEW = 105°

Begin Grade
Sta. 10+10.00 -L-
El. 712.5'

PI = 11+50.00
EL = 708.99'
VC = 140'
K = 49

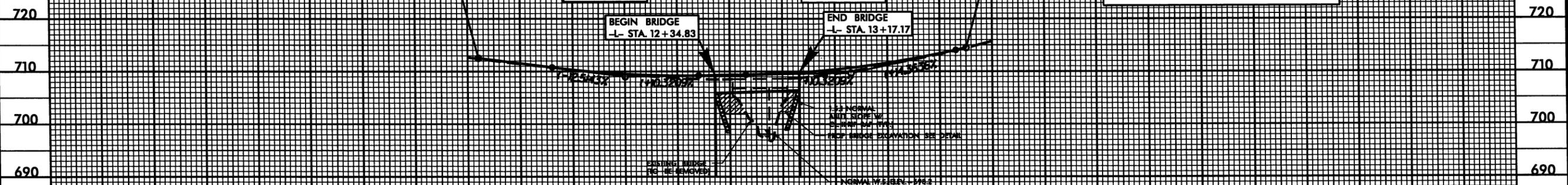
PI = 13+65.00
EL = 709.68'
VC = 200'
K = 49

End Grade
Sta. 14+75.00 -L-
El. 714.48'

BEGIN BRIDGE
-L- STA. 12+34.83

END BRIDGE
-L- STA. 13+17.17

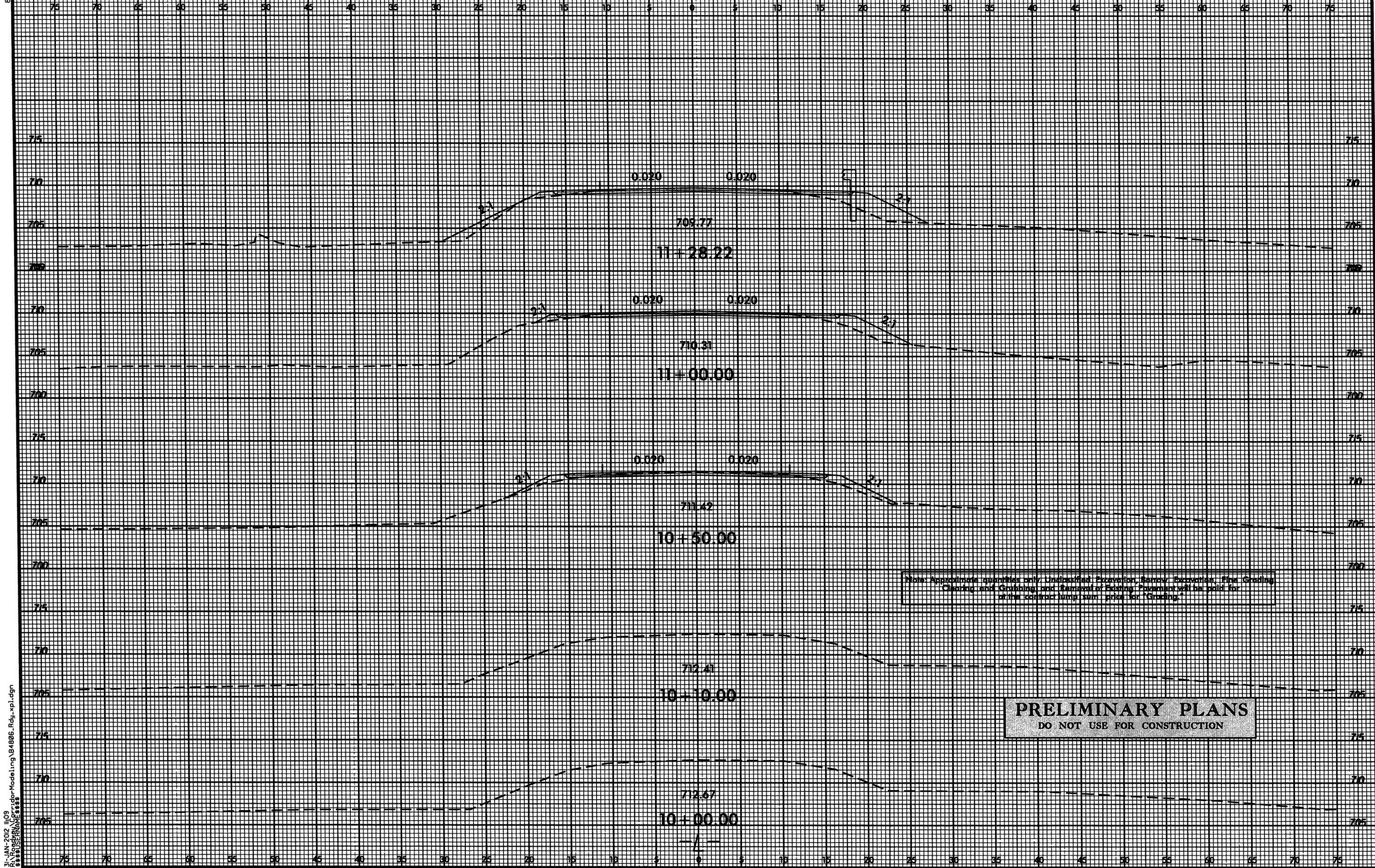
BRIDGE HYDRAULIC DATA		
DESIGN DISCHARGE	=	1,070 CFS
DESIGN FREQUENCY	=	25 YRS
DESIGN HW ELEVATION	=	705.9 FT
BASE DISCHARGE	=	1,530 CFS
BASE FREQUENCY	=	100 YRS
BASE HW ELEVATION	=	707.2 FT
OVERTOPPING DISCHARGE	=	2,080+ CFS
OVERTOPPING FREQUENCY	=	500+ YRS
OVERTOPPING ELEVATION	=	709.2 FT
DATE OF SURVEY	=	05 /04 /2011
W.S. ELEVATION AT DATE OF SURVEY	=	698.2 FT



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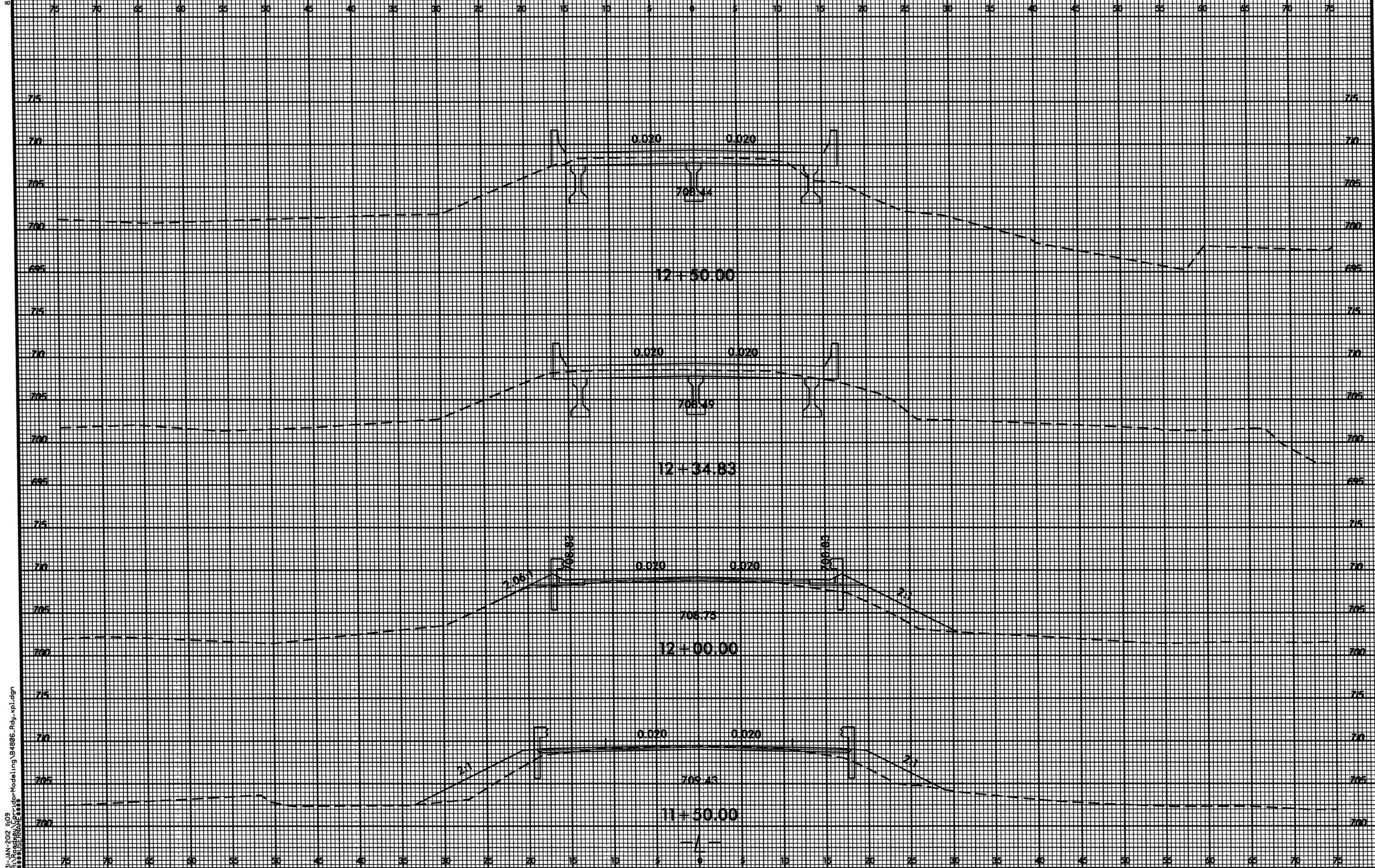


Note: Approximate quantities only. Unclassified Excavation, Narrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for in the contract lump sum price for Grading.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

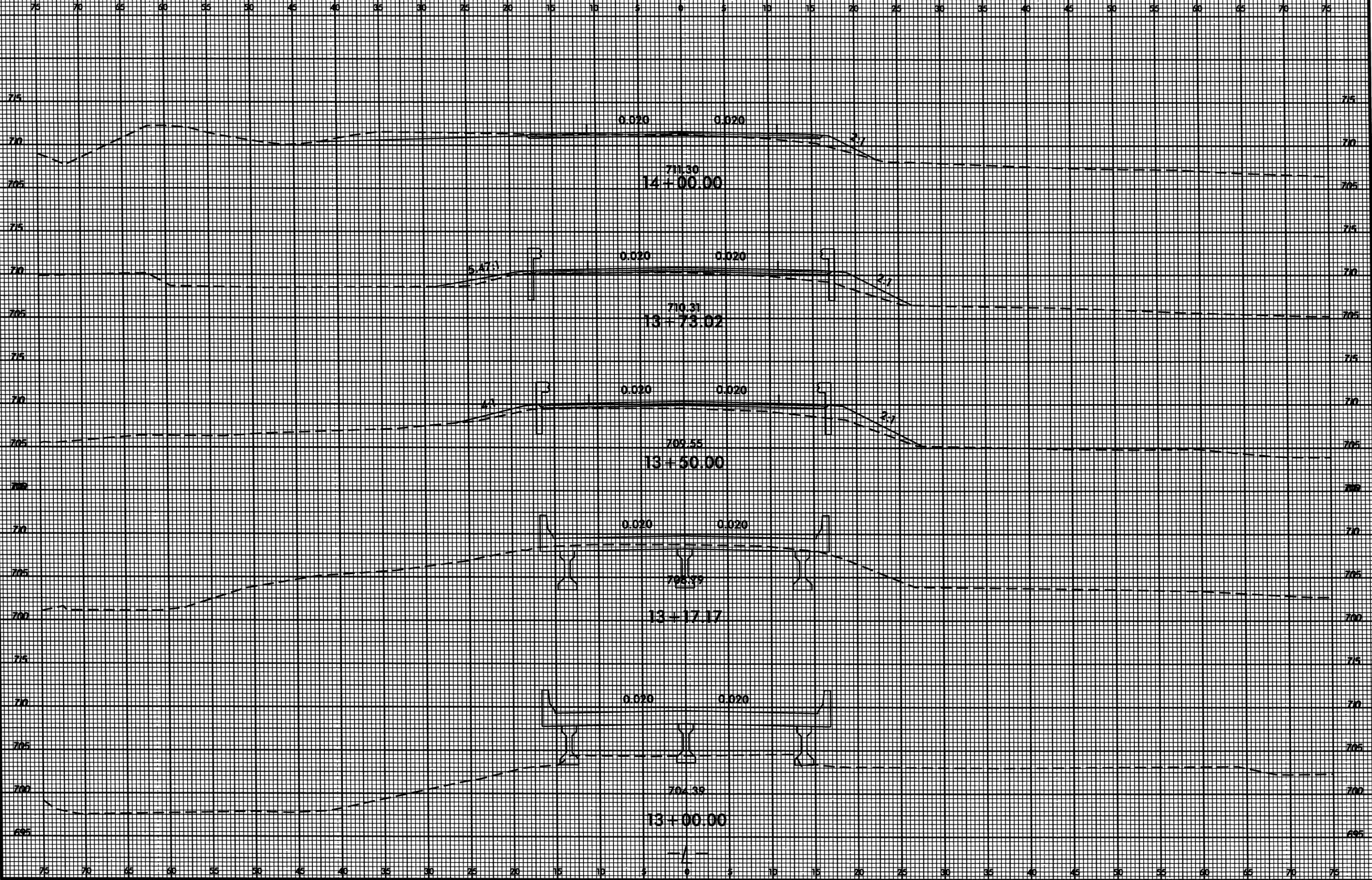
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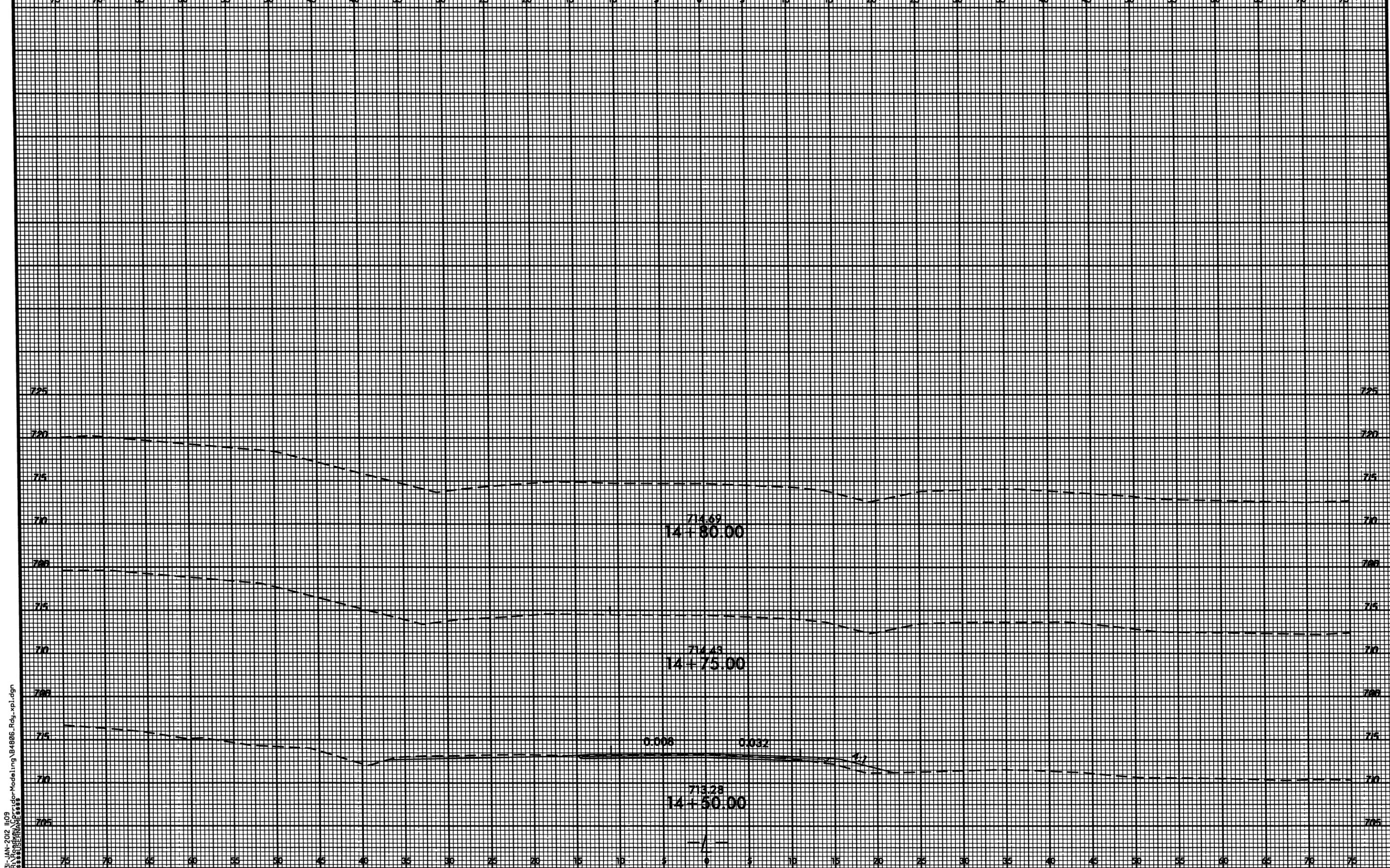
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PROJ. REFERENCE NO.
B-4806

SHEET NO.
X-5



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