



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

May 18, 2009

Mr. Bill Biddlecome
U.S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1000
Washington, NC 27889-1000

Mr. Jim Hoadley
Division of Coastal Management
N. C. Dept. of Env. & Natural Resources
1367 U. S. Highway 17
Elizabeth City, NC 27909

Dear Sirs:

Subject: Nationwide 23 Permit Application, and CAMA Major Development Permit Application for the replacement of Bridge #44 over the Roquist Creek on SR 1100 in Bertie County. State Project No. 8.2010701. Federal Aid Project Number BRZ-1100(17). Debit \$400.00 from WBS 33701.1.1.TIP No. B-4435.

Please find enclosed the North Carolina Division of Coastal Management Major Permit Forms 1 and 5, PCN form, Stormwater Permit, permit drawings, half-size plan sheets, utility drawings, and adjacent riparian landowner certified mail receipts for the above referenced project. A Categorical Exclusion (CE) was completed for this project on March 4, 2008, and distributed shortly thereafter. Additional copies are available upon request. The North Carolina Department of Transportation (NCDOT), Division of Highways, in consultation with the Federal Highway Administration (FHWA), proposes to replace Bridge No. 44 in Bertie County. Let Date is January 19, 2009 and the Review Date is December 1, 2009.

Regulatory Approvals

CAMA: NCDOT requests that the proposed work be authorized under a Coastal Area Management Act Major Development Permit. The landowner certified mail receipts are provided with this permit application. Authorization to debit the \$400 Permit Application Fee from WBS Element 33701.1.1 is hereby given.

Section 404 Permit: All aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that a Nationwide Permit 23 authorize these activities.


Section 401 Permit: We anticipate 401 General Certification number 3701 will apply to this project. NCDOT will adhere to all standard conditions of this certification, and therefore is not

requesting written approval. NCDOT is providing two copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality, for their review. NCDOT received a Stormwater Permit (SW7090402), dated April 9, 2009, from NCDWQ (attached).

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

If you have any questions or need additional information, please call Mr. Chris Manley, at 919-431-6746.

Sincerely,



for Gregory J. Thorpe, Ph.D. Environmental Management Director
Project Development and Environmental Analysis Branch

cc List:

W/attachment

Mr. Brian Wrenn, NCDWQ (2 Copies)
Ms. Cathy Brittingham, NCDCM

W/o attachment (see website for attachments)

Mr. Scott McLendon, USACE, Wilmington
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Mr. Ron Sechler, NMFS
Ms. Anne Deaton, NCDMF
Dr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Anthony Roper, P.E., Division 1 Engineer
Mr. Clay Willis, Division 1 Environmental Officer
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Ms. Christie Wright, P.E., PDEA Project Planning Engineer



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 type="checkbox"/> 401 Water Quality Certification – Regular <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	For the record only for Corps Permit: <input type="checkbox"/> Yes <input 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

2. Project Information

2a. Name of project:	Replacment of Bridge 44 over Roquist Creek on SR 1100
2b. County:	Bertie
2c. Nearest municipality / town:	Windsor
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no:	B-4435

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) 431-6746
3g. Fax no.:	(919) 431-2002
3h. Email address:	cdmanley@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: 35.985181 (DD.DDDDDD) Longitude: - 77.004159 (-DD.DDDDDD)
1c. Property size:	1.02 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Roquist Creek
2b. Water Quality Classification of nearest receiving water:	C Sw
2c. River basin:	Roanoke
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: Currently there is an existing roadway and bridge on site, and the surrounding area is forested and agriculture.	
3b. List the total estimated acreage of all existing wetlands on the property: 3.74	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 110	
3d. Explain the purpose of the proposed project: NCDOT Bridge Maintenance Unit records indicate Bridge No. 44 has a sufficiency rating of 40 out of a possible 100 for a new structure. The bridge is considered functionally obsolete due to a deck geometry appraisal of 3 out of 9. Therefore, NCDOT proposes to replace Bridge No. 44 with a new bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 103-foot bridge with a 140-foot, 3-span bridge on the existing alignment with an off-site detour. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments: Action ID 200511634	<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 checked="" type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): Layna Thrush, Elizabeth Scherrer, Justin Wright	Agency/Consultant Company: EcoScience Corporation Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. March 29, 2006	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions. Stormwater Permit, April 9, 2009, SW7090402	
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	riparian	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.06
Site 2 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Fill	riparian	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.02
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	
2g. Total wetland impacts					0.06 Permanent 0.02 Temporary

2h. Comments: The above 0.02 acre of temporary fill in wetlands is in the hand clearing areas for erosion control measures.

3. Stream Impacts

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

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site 1 <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 2 <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 3 <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 4 <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 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		
3h. Total stream and tributary impacts						0 Perm 0 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				
4f. Total open water impacts				0 Permanent 0 Temporary

4g. Comments:

5. Pond or Lake Construction

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

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

5g. Comments:

5h. Is a dam high hazard permit required?	<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 type="checkbox"/> Other:	
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)		
B1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
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				
6h. Total buffer impacts				0	0		
6i. Comments:							

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. The proposed bridge is 37 feet longer than the existing bridge; the proposed bridge will be at approximately the same grade as the existing structure; an off site detour will be used, 3:1 fill slopes where practicable. There will be an in-water work moratorium from February 15 to June 15 (updated via email with NCWRC on 5/11/09, see attached copy of email) to minimize impacts to anadromous fish.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Top down construction will be implemented, and there will be no workpads or causeways. Roanoke Electric Co-op, Embarq Telephone, Bertie County Water, and Media-Com (CATV) will be directional bored beneath Jurisdictional areas greater than 3 feet. NCDOT is not proposing mitigation due to the low impact amount and the quality of wetlands being impacted. The wetlands that will be impacted by this project are approximately 15 feet from the existing fill slope. NCDOT fills this area of impact is lower in quality.		
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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
2b. If yes, mitigation is required by (check all that apply):	<input type="checkbox"/> DWQ <input type="checkbox"/> Corps	
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> 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.	<input type="checkbox"/> Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	<input type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
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?

Yes No

6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.

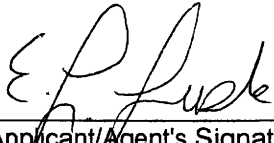
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
6f. Total buffer mitigation required:				

6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).

6h. Comments:

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If no, explain why. Comments:	<input 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 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 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 checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5b. Have all of the 401 Unit submittal requirements been met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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.	
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?	<input type="checkbox"/> Yes	<input checked="" 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? NHP, Field Surveys, and USFWS		
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: Hydraulics 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.)	5.19.09 Date

APPLICATION for Major Development Permit

(last revised 12/27/06)



North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information

Business Name North Carolina Department Of Transportation		Project Name (if applicable) B-4435	
Applicant 1: First Name Gregory	MI J.	Last Name Thorpe	
Applicant 2: First Name	MI	Last Name	
<i>If additional applicants, please attach an additional page(s) with names listed.</i>			
Mailing Address 1598 Mail Service Center		PO Box	City Raleigh
			State NC
ZIP 27699 1598	Country USA	Phone No. 919 - 431 - 6746 ext.	FAX No. 919 - 431 - 2002
Street Address (if different from above) 4701 Atlantic Avenue Suite 116		City Raleigh	State NC
			ZIP 27604-
Email cdmanley@ncdot.gov			

2. Agent/Contractor Information

Business Name			
Agent/ Contractor 1: First Name	MI	Last Name	
Agent/ Contractor 2: First Name	MI	Last Name	
Mailing Address		PO Box	City
			State
ZIP		Phone No. 1 - - ext.	Phone No. 2 - - ext.
FAX No.		Contractor #	
Street Address (if different from above)		City	State
			ZIP
Email			

<Form continues on back>

3. Project Location			
County (can be multiple) Bertie	Street Address Bridge No.44 over Roquist Creek	State Rd. # SR 1100	
Subdivision Name N/A	City Windsor	State NC	Zip -
Phone No. - - - - - ext.		Lot No.(s) (if many, attach additional page with list)	
a. In which NC river basin is the project located? Roanoke		b. Name of body of water nearest to proposed project Roquist Creek	
c. Is the water body identified in (b) above, natural or manmade? <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Manmade <input type="checkbox"/> Unknown		d. Name the closest major water body to the proposed project site. Albemarle Sound	
e. Is proposed work within city limits or planning jurisdiction? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		f. If applicable, list the planning jurisdiction or city limit the proposed work falls within.	

4. Site Description	
a. Total length of shoreline on the tract (ft.) 110	b. Size of entire tract (sq.ft.) 44,550
c. Size of individual lot(s) <i>(If many lot sizes, please attach additional page with a list)</i>	d. Approximate elevation of tract above NHW (normal high water) or NWL (normal water level) <input type="checkbox"/> NHW or <input type="checkbox"/> NWL
e. Vegetation on tract Acer rubrum, Liquidambar styraciflua, Taxodium distichum, Smilax rotundifolia, and Toxidendron radicans	
f. Man-made features and uses now on tract Bridge and Roadway Approaches	
g. Identify and describe the existing land uses <u>adjacent</u> to the proposed project site. Agricultural and Residential	
h. How does local government zone the tract? Residential	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
j. Is the proposed activity part of an urban waterfront redevelopment proposal? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA If yes, by whom?	
l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	

<Form continues on next page>

m. (i) Are there wetlands on the site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(ii) Are there coastal wetlands on the site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
(iii) If yes to either (i) or (ii) above, has a delineation been conducted? <i>(Attach documentation, if available)</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
n. Describe existing wastewater treatment facilities. N/A	
o. Describe existing drinking water supply source. N/A	
p. Describe existing storm water management or treatment systems. None	

5. Activities and Impacts	
a. Will the project be for commercial, public, or private use?	<input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Public/Government <input type="checkbox"/> Private/Community
b. Give a brief description of purpose, use, and daily operations of the project when complete. Public Road and Bridge	
c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored. This project involves the replacement of Bridge No. 44 (SR 1100) near Windsor. The bridge will be replaced at the existing location, and traffic will be routed on an off site detour. Top down construction will be the construction method. The existing bridge will be removed without dropping any components into the water. Typical construction, earth moving, and road surface equipment will be used.	
d. List all development activities you propose. Roadway and bridge construction	
e. Are the proposed activities maintenance of an existing project, new work, or both?	Both
f. What is the approximate total disturbed land area resulting from the proposed project?	36,000 <input checked="" type="checkbox"/> Sq.Ft or <input type="checkbox"/> Acres
g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
h. Describe location and type of existing and proposed discharges to waters of the state. See permit drawings	
i. Will wastewater or stormwater be discharged into a wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
If yes, will this discharged water be of the same salinity as the receiving water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
j. Is there any mitigation proposed?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
If yes, attach a mitigation proposal.	

<Form continues on back>

6. Additional Information

In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a) – (f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.

- a. A project narrative.
- b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.
- c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.
- d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.
- e. The appropriate application fee. Check or money order made payable to DENR.

f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management.

Name See attached list	Phone No.
Address	
Name	Phone No.
Address	
Name	Phone No.
Address	

g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.
 Stormwater Permit, April 9, 2009, SW7090402

h. Signed consultant or agent authorization form, if applicable.

i. Wetland delineation, if necessary.

j. A signed AEC hazard notice for projects in oceanfront and inlet areas. *(Must be signed by property owner)*

k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

7. Certification and Permission to Enter on Land

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date 5-19-09

Print Name Gregory J. Thorne, PhD

Signature *E.P. Furr*

Please indicate application attachments pertaining to your proposed project.

- DCM MP-2 Excavation and Fill Information
- DCM MP-3 Upland Development
- DCM MP-4 Structures Information
- DCM MP-5 Bridges and Culverts

BRIDGES and CULVERTS

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

1. BRIDGES This section not applicable

a. Is the proposed bridge:
 Commercial Public/Government Private/Community

b. Water body to be crossed by bridge:
Roquist Creek

c. Type of bridge (construction material):
21" Cored Slab

d. Water depth at the proposed crossing at NLW or NWL:
3'

e. (i) Will proposed bridge replace an existing bridge? Yes No
If yes,
(ii) Length of existing bridge: 103'
(iii) Width of existing bridge: 21'
(iv) Navigation clearance underneath existing bridge: 7'
(v) Will all, or a part of, the existing bridge be removed?
(Explain) Yes, All of the existing bridge will be removed

f. (i) Will proposed bridge replace an existing culvert? Yes No
If yes,
(ii) Length of existing culvert: _____
(iii) Width of existing culvert: _____
(iv) Height of the top of the existing culvert above the NHW or NWL: _____
(v) Will all, or a part of, the existing culvert be removed?
(Explain)

g. Length of proposed bridge: 140 (ft)

h. Width of proposed bridge: 28'

i. Will the proposed bridge affect existing water flow? Yes No
If yes, explain: The new bridge and roadway grade will cause a slight decrease in the 100 year water surface elevation

j. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? Yes No
If yes, explain: Increase opening

k. Navigation clearance underneath proposed bridge: 5'

l. Have you contacted the U.S. Coast Guard concerning their approval? Yes No
If yes, explain:

m. Will the proposed bridge cross wetlands containing no navigable waters? Yes No
If yes, explain: Stream too small for navigation

n. Height of proposed bridge above wetlands: 5'

2. CULVERTS This section not applicable

a. Number of culverts proposed: N/A

b. Water body in which the culvert is to be placed:

< Form continues on back >

c. Type of culvert (construction material):

N/A

d. (i) Will proposed culvert replace an existing bridge?

Yes No

If yes,

(ii) Length of existing bridge: _____

(iii) Width of existing bridge: _____

(iv) Navigation clearance underneath existing bridge: _____

(v) Will all, or a part of, the existing bridge be removed?
(Explain)

e. (i) Will proposed culvert replace an existing culvert?

Yes No

If yes,

(ii) Length of existing culvert(s): _____

(iii) Width of existing culvert(s): _____

(iv) Height of the top of the existing culvert above the NHW or
NWL: _____

(v) Will all, or a part of, the existing culvert be removed?
(Explain)

f. Length of proposed culvert: _____

g. Width of proposed culvert: _____

h. Height of the top of the proposed culvert above the NHW or NWL.

i. Depth of culvert to be buried below existing bottom contour.

j. Will the proposed culvert affect navigation by reducing or
increasing the existing navigable opening? Yes No

If yes, explain:

k. Will the proposed culvert affect existing water flow? Yes No

If yes, explain:

3. EXCAVATION and FILL

This section not applicable

a. (i) Will the placement of the proposed bridge or culvert require any
excavation below the NHW or NWL? Yes No

If yes,

(ii) Avg. length of area to be excavated: _____

(iii) Avg. width of area to be excavated: _____

(iv) Avg. depth of area to be excavated: _____

(v) Amount of material to be excavated in cubic yards: _____

b. (i) Will the placement of the proposed bridge or culvert require any
excavation within coastal wetlands/marsh (CW), submerged
aquatic vegetation (SAV), shell bottom (SB), or other wetlands
(WL)? If any boxes are checked, provide the number of square
feet affected.

CW _____ SAV _____ SB _____

WL _____ None

(ii) Describe the purpose of the excavation in these areas:

c. (i) Will the placement of the proposed bridge or culvert require any
high-ground excavation? Yes No

If yes,

(ii) Avg. length of area to be excavated: 19'

(iii) Avg. width of area to be excavated: 30'

(iv) Avg. depth of area to be excavated: 6'

(v) Amount of material to be excavated in cubic yards: 250

d. If the placement of the bridge or culvert involves any excavation, please complete the following:

(i) Location of the spoil disposal area: Approved NCDOT site

(ii) Dimensions of the spoil disposal area: To be determined by contractor

(iii) Do you claim title to the disposal area? Yes No (If no, attach a letter granting permission from the owner.)

(iv) Will the disposal area be available for future maintenance? Yes No

(v) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAVs), other wetlands (WL), or shell bottom (SB)?

CW SAV WL SB None

If any boxes are checked, give dimensions if different from (ii) above.

(vi) Does the disposal area include any area below the NHW or NWL? Yes No

If yes, give dimensions if different from (ii) above.

e. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d above) to be placed below NHW or NWL? Yes No

If yes,

(ii) Avg. length of area to be filled: 220'

(iii) Avg. width of area to be filled: 14'

(iv) Purpose of fill: Widening roadway approaches

f. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d above) to be placed within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

CW _____ SAV _____ SB _____

WL 2686 None

(ii) Describe the purpose of the excavation in these areas:

g. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item d above) to be placed on high-ground? Yes No

If yes,

(ii) Avg. length of area to be filled: _____

(iii) Avg. width of area to be filled: _____

(iv) Purpose of fill:

4. GENERAL

a. Will the proposed project require the relocation of any existing utility lines? Yes No

If yes, explain: Roanoke Electric Co-op, Embarq Telephone, Bertie County Water, and Media-Com (CATV) will be directional bored beneath Jurisdictional areas greater than 3 feet.

If this portion of the proposed project has already received approval from local authorities, please attach a copy of the approval or certification.

b. Will the proposed project require the construction of any temporary detour structures? Yes No

If yes, explain:

< Form continues on back >

c. Will the proposed project require any work channels?
 Yes No
If yes, complete Form DCM-MP-2.

d. How will excavated or fill material be kept on site and erosion controlled?
Use of Standard NCDOT BMP's

e. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?
Typical construction, earth moving, and road surface equipment will be used.

f. Will wetlands be crossed in transporting equipment to project site?
 Yes No
If yes, explain steps that will be taken to avoid or minimize environmental impacts.

g. Will the placement of the proposed bridge or culvert require any shoreline stabilization?
 Yes No
If yes, complete form MP-2, Section 3 for Shoreline Stabilization only.

Date	5-19-09
Project Name	B-4435
Applicant Name	E. Gregory J. Thorpe, PhD
Applicant Signature	E. G. Thorpe



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

May 18, 2009

Elisha Edward Coburn, Heirs
104 Coburn Road
Windsor, NC 27893

Dear Landowner:

The North Carolina Department of Transportation is planning to replace bridge number 44 on SR 1100 over Roquist Creek. The proposed project will replace the aging existing structure over Roquist Creek. The project will replace the existing 103-foot long bridge with a 140-foot long bridge. The additional length will allow for the replacement of a substandard structure as well as improve the existing floodplain. This project crosses an Area of Environmental Concern, as defined by the North Carolina Division of Coastal Management (DCM), and must be approved by the DCM under provisions of the Coastal Area Management Act (CAMA). One of the prerequisites to this approval is that adjacent riparian landowners be given an opportunity to comment on the proposal. A vicinity map and site drawings are enclosed for your review.

The attached form is submitted to ensure that you have an opportunity to comment on the proposal. The work planned is depicted in the attached drawing. If you have **no** objections to the proposal, please return the form with your response within 30 days to this office. If you **do** have objections to the project, please forward your comments to:

Mr. Jim Hoadley
N.C. Division of Coastal Management
1367 U. S. Highway 17
Elizabeth City, NC 27909

Thank you for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "Gregory J. Thorpe".

Gregory J. Thorpe, Ph.D.,
Environmental Management Director, PDEA
Enclosures

cc: Jim Hoadley, NCDCM
Ms. Christie Wright, P.E., PDEA Project Planning Engineer
File B-4435

ADJACENT RIPARIAN LANDOWNER STATEMENT

(Bertie County: Replace Bridge No. 44 over Roquist Creek)
TIP Project No. B-4435

General Statutes and Division of Coastal Management Major Development Permit approval procedures require that riparian landowners with property adjoining a proposed development in an Area of Environmental Concern (AEC) be given thirty (30) days in which to comment on the proposed development. This form allows the adjacent riparian landowner to express either: (1) that he objects to the project; or, (2) that he does not object and desires to waive his/her right to the 30-day period so that the processing of the application can progress more rapidly. Of course, the adjacent riparian landowner need not sign this form at all if he/she so chooses.

I, _____, am an adjacent riparian property owner and am aware of the North Carolina Department of Transportation's plans for replacing bridge number _____ over water body in _____ County, North Carolina. I am further aware that this work will occur in one or more Areas of Environmental Concern and therefore will require authorization from the Division of Coastal Management in accordance with the Coastal Area Management Act (CAMA).

_____ I have no objection to the project as presently proposed and hereby waive that right of objection as provided in General Statute 113-229

_____ I have objections to the project as presently proposed and my comments are attached

Signature of Adjacent Riparian Landowner

Date

Phone Number with Area Code



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

May 18, 2009

Lena Hoggard Evans
342 Exter Road
Colerain, NC 27924-8904

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Enclosures

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File B-4435

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Date

Phone Number with Area Code



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

May 18, 2009

Charles Hill
1990 Lexington Avenue, APT 23C
New York, NY 10035

Dear Landowner:

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Thank you for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "G. J. Thorpe".

fel
Gregory J. Thorpe, Ph.D.,
Environmental Management Director, PDEA
Enclosures

cc: Jim Hoadley, NCDCM
Ms. Christie Wright, P.E., PDEA Project Planning Engineer
File B-4435

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(Bertie County: Replace Bridge No. 44 over Roquist Creek)
TIP Project No. B-4435

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

May 18, 2009

Horace G. Ward Jr.
7316 Helmsdale Road
Bethesda, MD 20817-4626

Dear Landowner:

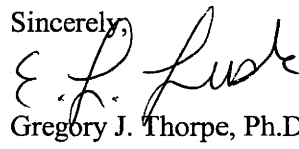
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1367 U. S. Highway 17
Elizabeth City, NC 27909

Thank you for your cooperation.

Sincerely,

for 

Gregory J. Thorpe, Ph.D.,
Environmental Management Director, PDEA
Enclosures

cc: Jim Hoadley, NCDCM
Ms. Christie Wright, P.E., PDEA Project Planning Engineer
File B-4435

ADJACENT RIPARIAN LANDOWNER STATEMENT
(Bertie County: Replace Bridge No. 44 over Roquist Creek)
TIP Project No. B-4435

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Signature of Adjacent Riparian Landowner

Date

Phone Number with Area Code

MWC
ret 1/10



North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue
Governor

Coleen H. Sullins
Director

Dee Freeman
Secretary

April 9, 2009

RECEIVED
APR 15 2009
DIVISION OF HIGHWAYS
HYDRAULICS UNIT

Mr. D.R. Henderson, PE
NCDOT – Hydraulics Unit
1590 Mail Service Center
Raleigh, NC 27699-1590

**Subject: Stormwater Permit Exclusion – NC DOT Activity
Replacement of Bridge No.44 over Roquist Creek on SR1100
Stormwater Project No. SW7090402
Bertie County**

Dear Mr. Henderson:

On April 6, 2009, the Washington Regional Office of the Division of Water Quality received a Coastal Stormwater Permit Application for project B-4435, the replacement of Bridge No. 44, located over Roquist Creek on SR 1100 in Bertie County. Staff review of the plans and supporting documents has determined that the project proposes activities that are excluded from State Stormwater permitting requirements as set forth in Section 2.(d)(1) of Session Law 2008-211, effective October 1, 2008, and the stormwater rules under Title 15A NCAC 2H .1000, as amended.

Therefore, the Director of the Division of Water Quality is hereby providing confirmation that the subject project is excluded from State Stormwater permitting requirements, being an activity of the NC DOT that is regulated in accordance with the provisions of the NC DOT's National Pollutant Discharge Elimination System (NPDES) Stormwater Permit.

Under Section 15A NCAC 2H .1003, any future development or changes to the proposed development, including but not limited to, the locations of the built-upon area and construction of additional built-upon area, may require approval or a Stormwater Management permit application and permit issuance from the Division of Water Quality prior to any construction. Any construction on the site prior to receipt of the required approval or permit will constitute a violation of Title 15A NCAC 2H.1000 and Session Law 2008-211, and may result in the initiation of appropriate enforcement action.

Please keep in mind that this determination does not affect your legal obligation to obtain other permits and approvals, which may be required by Federal, State, or local government agencies, rule or law. If you have any questions, or need additional information concerning this matter, please contact either Scott Vinson or me at (252) 946-6481.

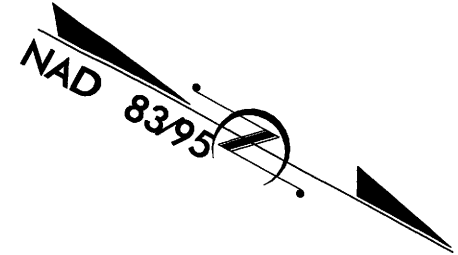
Sincerely,


Al Hodge
Regional Supervisor
Surface Water Protection Section

AH/sv: S:\WQS\STORMWATER\PERMIT\EXCLUSIONS\SW7090402

cc: Bertie County Building Inspections
Division of Coastal Management
Garcy Ward, DWQ
Washington Regional Office
Central Files

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4435	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
33701.1.1	BRZ-1100(17)	PE	



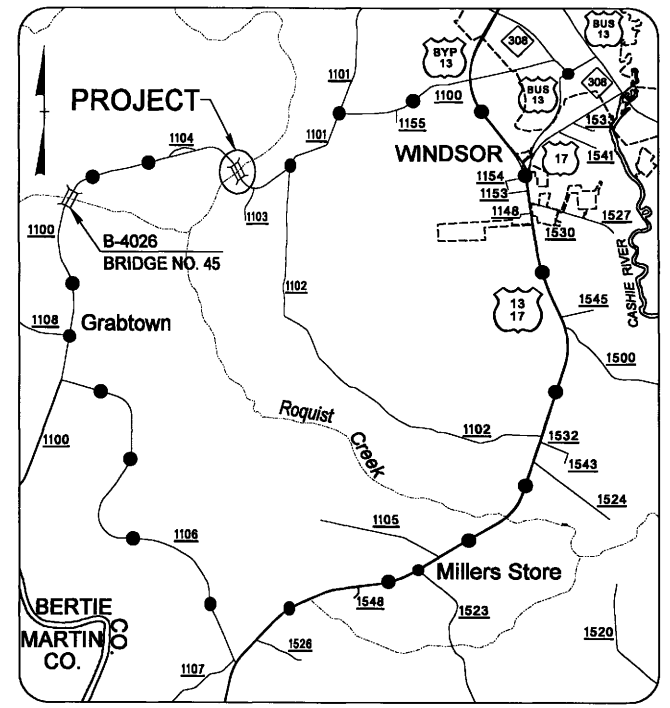
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BERTIE COUNTY

LOCATION: BRIDGE NO. 44 OVER ROQUIST CREEK ON SR 1100

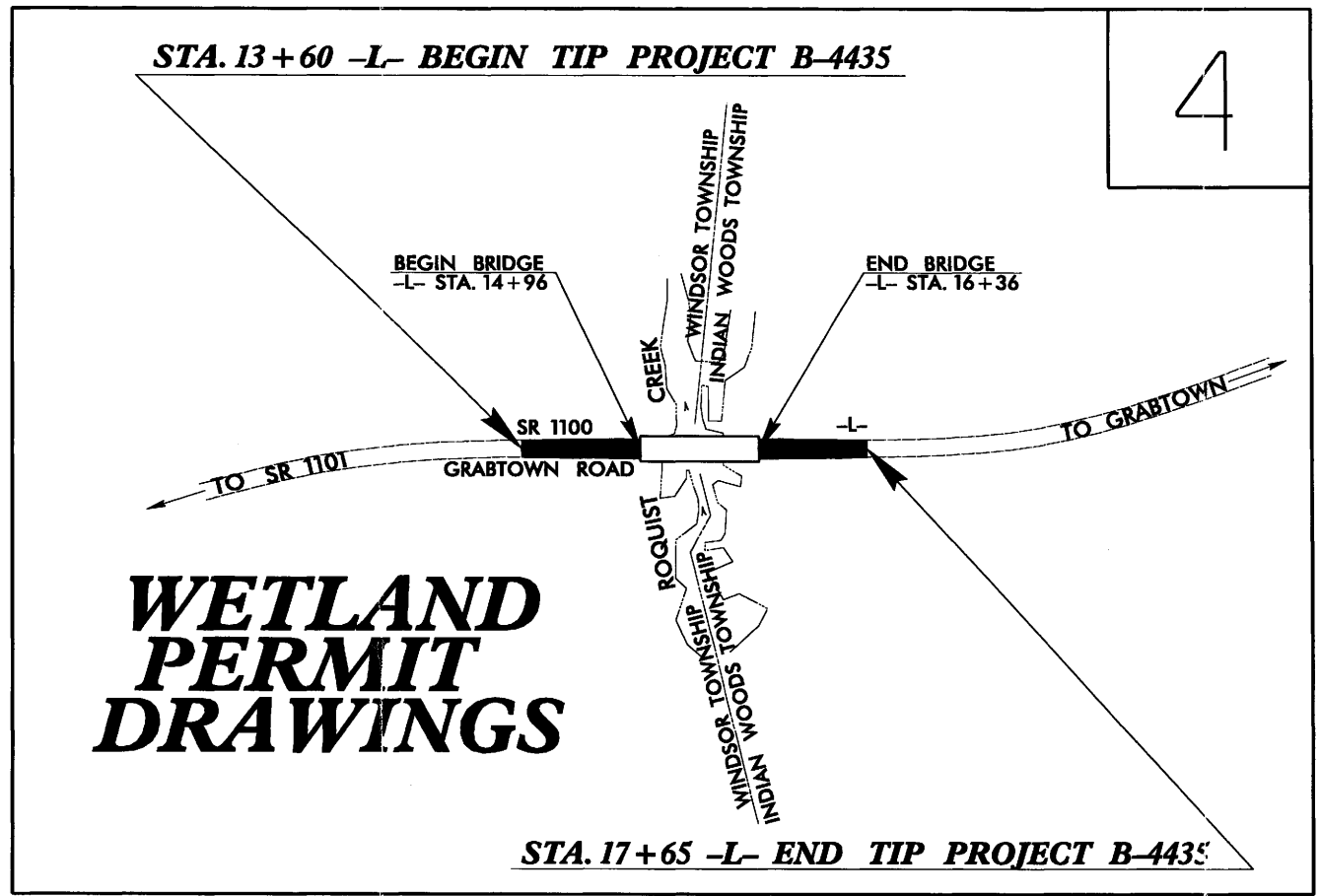
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

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



VICINITY MAP

●●●●● DETOUR ROUTE

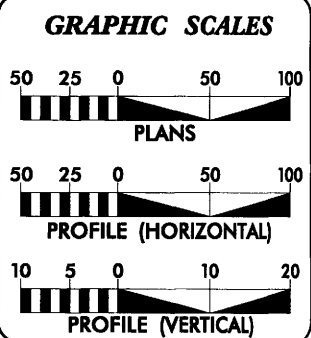


Permit Drawing Sheet 1 of 5

THIS PROJECT WAS DESIGNED USING THE SUB REGIONAL TIER DESIGN GUIDELINES FOR BRIDGE PROJECTS.
THIS PROJECT IS WITHIN BOTH THE WINDSOR AND INDIAN WOODS TOWNSHIPS
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ____.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2010 =	1,208
ADT 2030 =	1,900
DHV =	10 %
D =	60 %
T =	3 % *
V =	50 MPH
* TTST 1%	DUAL 2%
FUNC. CLASS =	RURAL COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4435 =	0.050 MILES
LENGTH STRUCTURE TIP PROJECT B-4435 =	0.027 MILES
TOTAL LENGTH TIP PROJECT B-4435 =	0.077 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
January 16, 2009

LETTING DATE:
January 19, 2010

GARY LOVERING, PE
PROJECT ENGINEER

RON McCOLLUM, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

09/28/09
\$\$\$\$\$ SYSTEM\$\$\$\$\$
\$\$\$\$\$ USERNAME\$\$\$\$\$

Property Owners

Parcel Number	Names	Addresses
1	Elisha Edward Coburn, Heirs	104 Coburn Road Windsor, NC 27893
2	Lena Hoggard Evans	342 Exter Road Colerain, NC 27924-8904
3	Charles Hill	1990 Lexington Avenue, APT 23C New York, NY 10035
4	Horace G. Ward, Jr.	7316 Helmsdale RD Bethesda, MD 20817-4626

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Bertie COUNTY
WBS - 33701.1.1 (B-4435)

SHEET 12/18/2008

WETLAND PERMIT IMPACT SUMMARY

		WETLAND IMPACTS					SURFACE WATER IMPACTS					
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- 13+56 to 17+48	Roadway Fill & Bridge	0.06				0.08					
TOTALS:			0.06	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00

RECEIVED

0.02 acres of Temporary Fill in Wetlands in the Hand Clearing areas for erosion control measures

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
Bertie COUNTY
WBS - 33701.1.1 (B-4435)

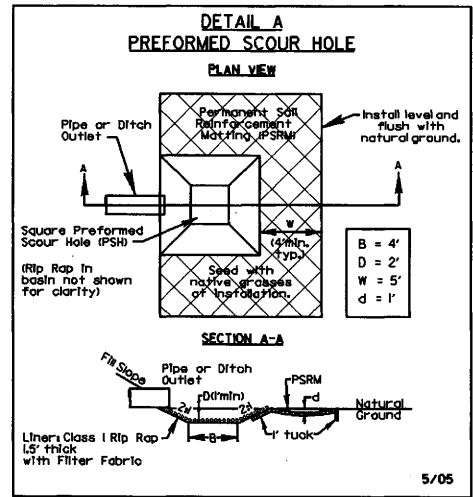
SHEET 5/6/2009

Permit Drawing
Sheet 3 of 5

FOR -L- PROFILE SEE SHEET 5

▭ BRIDGE APPROACH SLAB

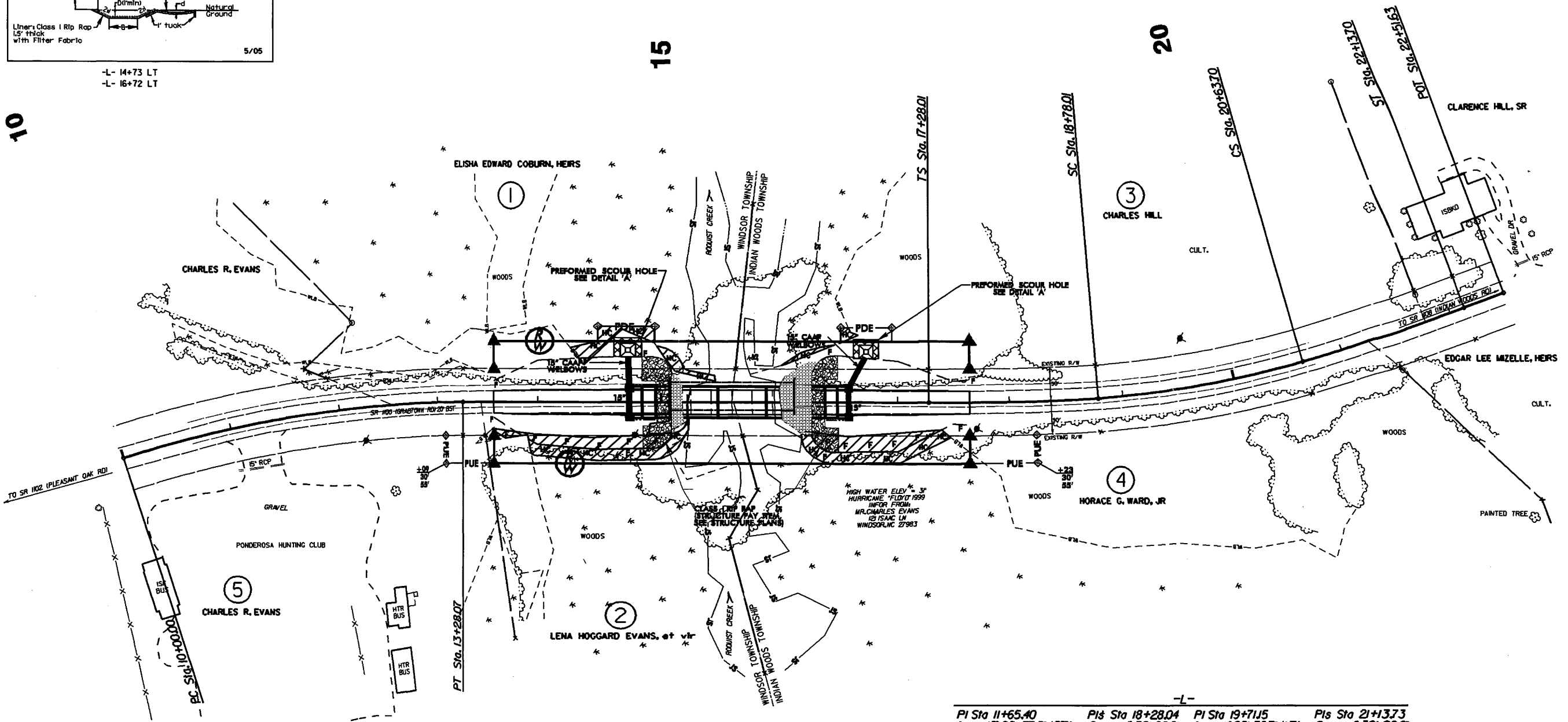
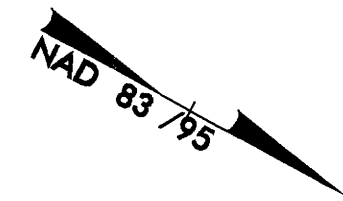
▨ UNCLASSIFIED STRUCTURE EXCAVATION (STRUCTURE PAY ITEM)



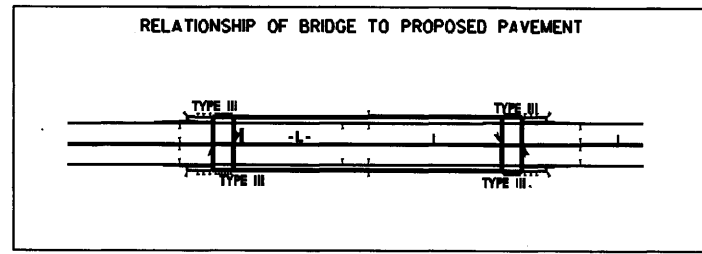
-L- 14+73 LT
-L- 16+72 LT

▨ DENOTES FILL IN WETLAND

▨ DENOTES HAND CLEARING



-L-			
PI Sta 11+65.40	P1s Sta 18+28.04	PI Sta 19+71.15	P1s Sta 21+13.73
$\Delta = 18^{\circ} 02' 37.5" (RT)$	$\Theta_s = 4^{\circ} 30' 00.0"$	$\Delta = 11^{\circ} 08' 30.7" (LT)$	$\Theta_s = 4^{\circ} 30' 00.0"$
$D = 5^{\circ} 30' 00.0"$	$L_s = 150.00'$	$D = 6^{\circ} 00' 00.0"$	$L_s = 150.00'$
$L = 328.07'$	$LT = 100.03'$	$L = 185.70'$	$LT = 100.03'$
$T = 165.40'$	$ST = 50.03'$	$T = 93.14'$	$ST = 50.03'$
$R = 10417.4'$		$R = 9549.3'$	
		$SE = \text{SEE PLANS}$	



01-27-09 - R/W REVISION - ADDED PERMANENT UTILITY EASEMENTS TO PARCELS 2,4, AND 5

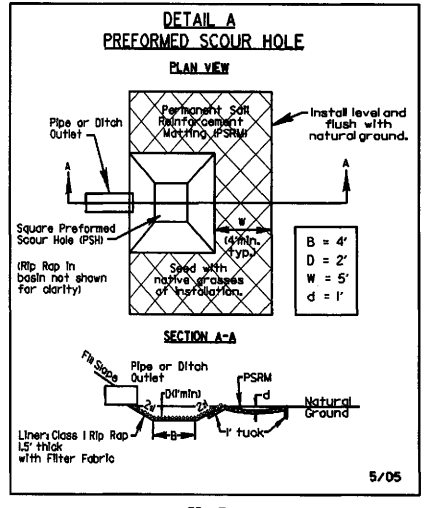
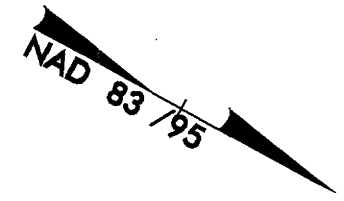
06-MAY-2009 10:00
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8/17/99

PROJECT REFERENCE NO. B-4435	SHEET NO. 4
RDW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

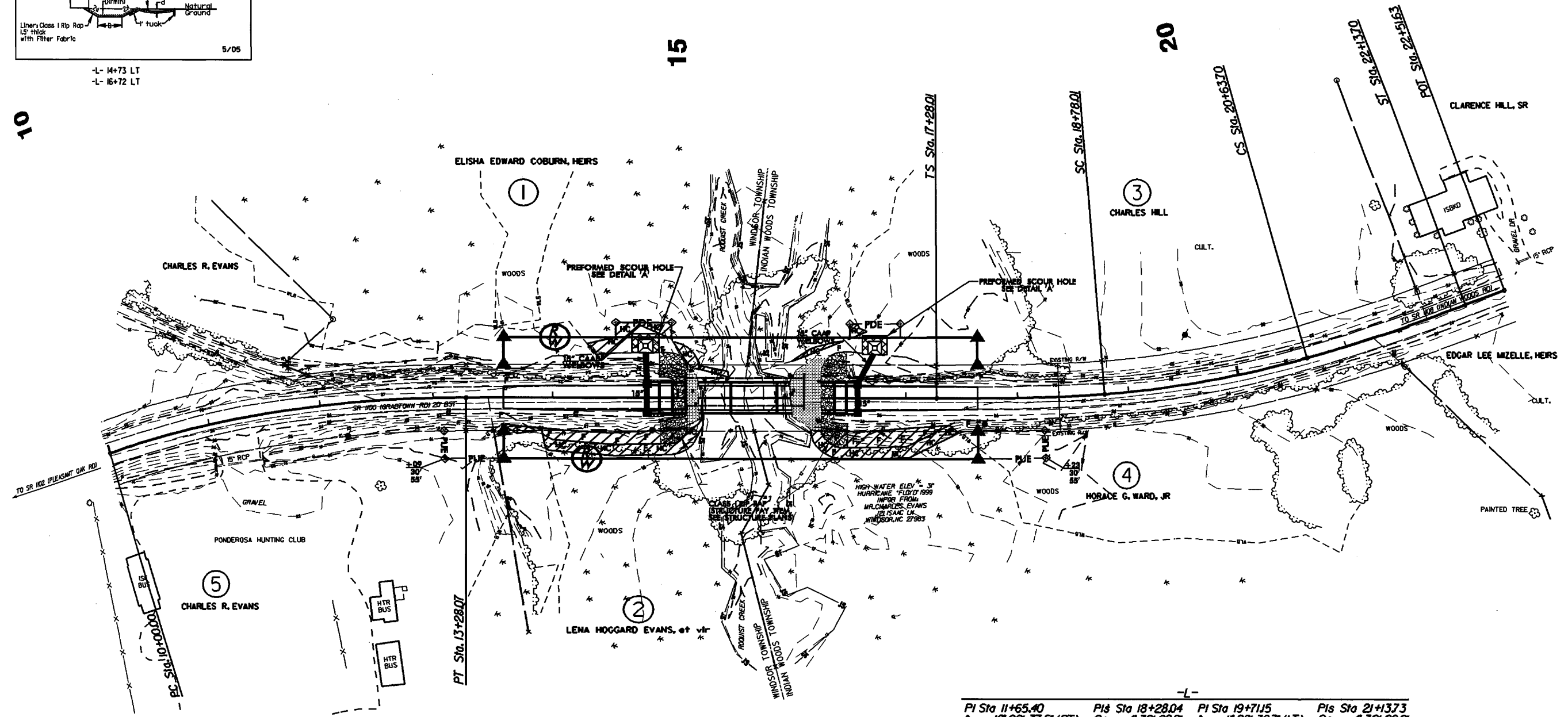
FOR -L- PROFILE SEE SHEET 5

- BRIDGE APPROACH SLAB
- UNCLASSIFIED STRUCTURE EXCAVATION (STRUCTURE PAY ITEM)

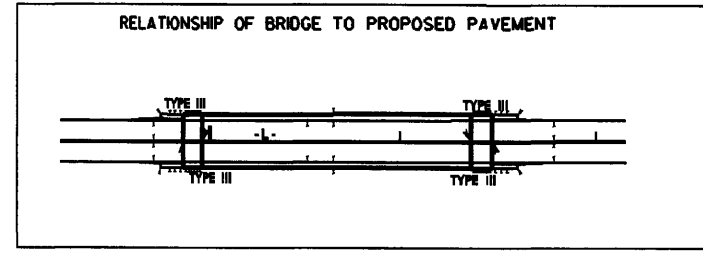
DENOTES FILL IN WETLAND
 DENOTES HAND CLEARING



-L- 14+73 LT
-L- 16+72 LT



-L-			
PI Sta 11+65.40	PIs Sta 18+28.04	PI Sta 19+71.15	PIs Sta 21+13.73
$\Delta = 18' 02' 37.5''$ (RT)	$\Theta_s = 4' 30' 00.0''$	$\Delta = 11' 08' 30.7''$ (LT)	$\Theta_s = 4' 30' 00.0''$
$D = 5' 30' 00.0''$	$L_s = 150.00'$	$D = 6' 00' 00.0''$	$L_s = 150.00'$
$L = 328.07'$	$LT = 100.03'$	$L = 185.70'$	$LT = 100.03'$
$T = 165.40'$	$ST = 50.03'$	$T = 93.14'$	$ST = 50.03'$
$R = 1,041.74'$		$R = 954.93'$	
		$SE = \text{SEE PLANS}$	



REVISIONS
01-27-09 - R/W REVISION - ADDED PERMANENT UTILITY EASEMENTS TO PARCELS 2.4 AND 5

8/17/99
05-MAY-2009 09:59
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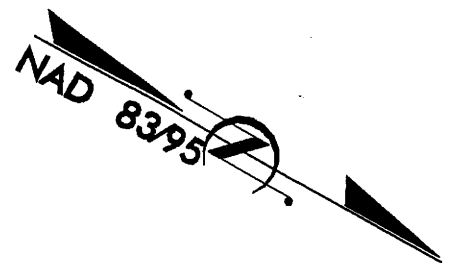
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4435	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33701.1.1	BRZ-1100(17)	PE	
33701.2.1	BRZ-1100(17)	RW & UTIL	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

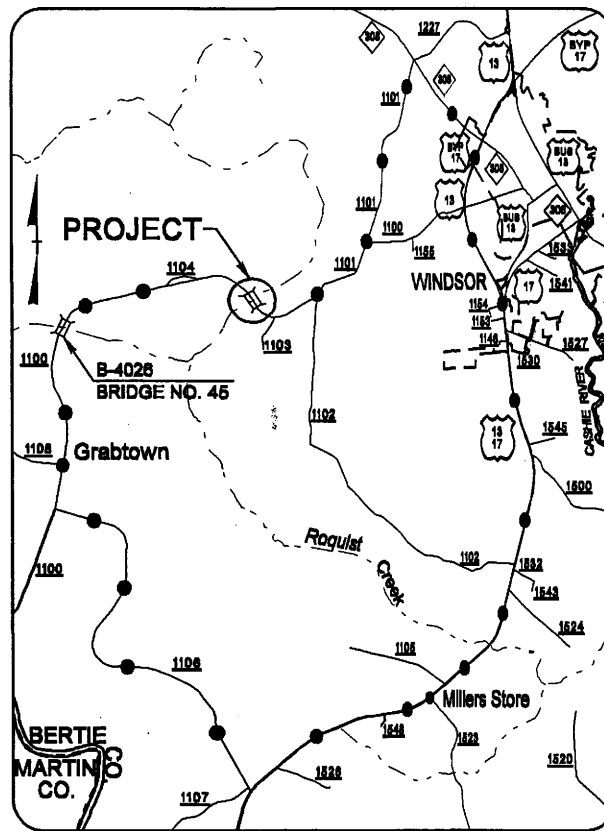
BERTIE COUNTY

LOCATION: BRIDGE NO. 44 OVER ROQUIST CREEK ON SR 1100

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



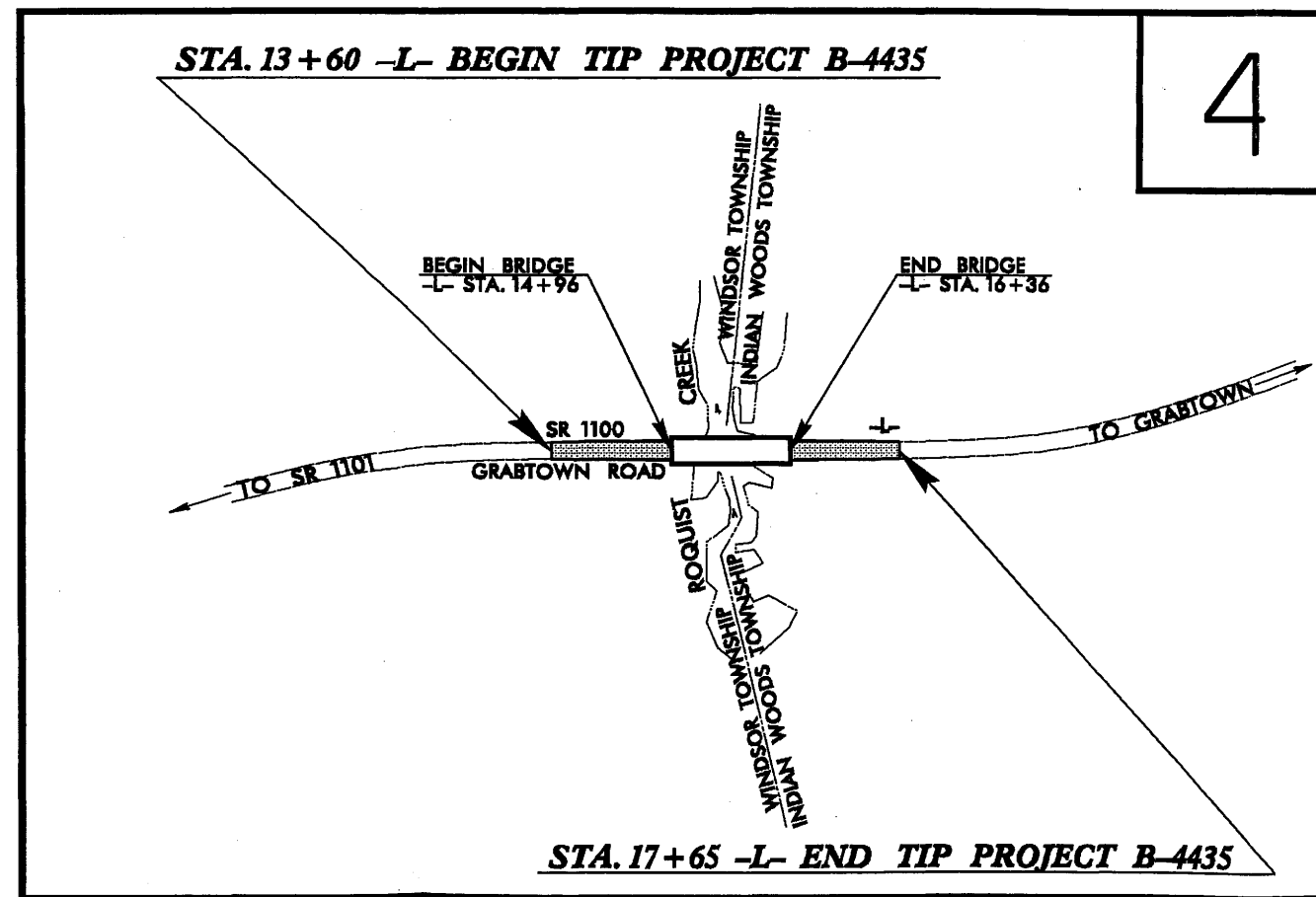
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP

—•—•—•—•— DETOUR ROUTE

TIP PROJECT: B-4435



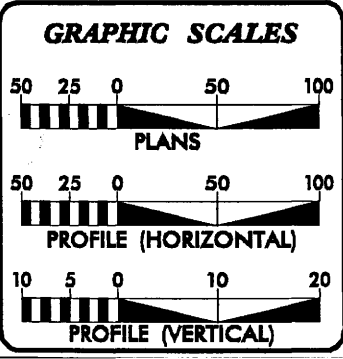
4

THIS PROJECT WAS DESIGNED USING THE SUB REGIONAL TIER DESIGN GUIDELINES FOR BRIDGE PROJECTS.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

Utility
Permit Drawing
Sheet 1 of 10

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2010 =	1,208
ADT 2030 =	1,900
DHV =	10 %
D =	60 %
T =	3 % "
V =	50 MPH
* TTST 1% DUAL 2%	
FUNC. CLASS =	RURAL COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4435	=	0.050 MILES
LENGTH STRUCTURE TIP PROJECT B-4435	=	0.027 MILES
TOTAL LENGTH TIP PROJECT B-4435	=	0.077 MILES

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

<small>2006 STANDARD SPECIFICATIONS</small>	
RIGHT OF WAY DATE: January 7, 2009	GARY LOVERING, PE <small>PROJECT ENGINEER</small>
LETTING DATE: January 19, 2010	RON McCOLLUM, PE <small>PROJECT DESIGN ENGINEER</small>

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER P.E.

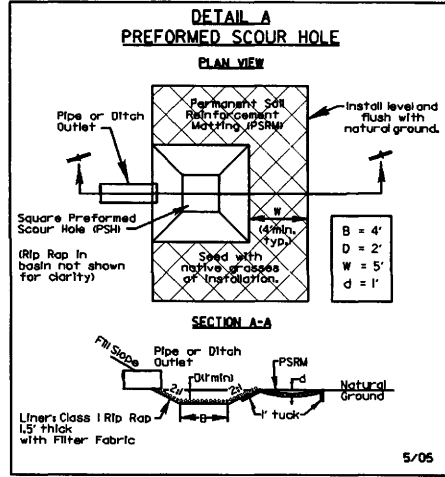
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8/17/99

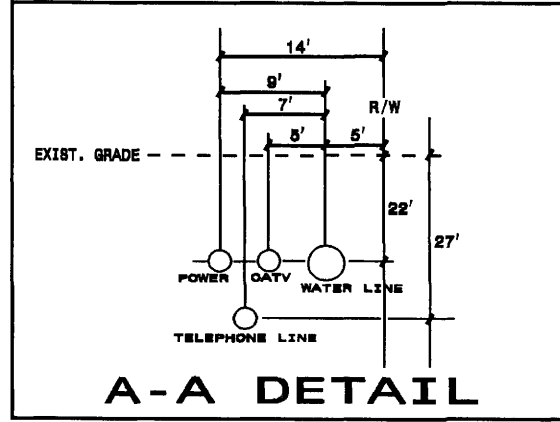
REVISEMENTS

18-DEC-2008 17:07

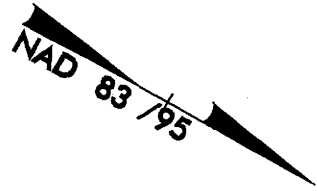
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-L- 14+73 LT
-L- 16+72 LT



15



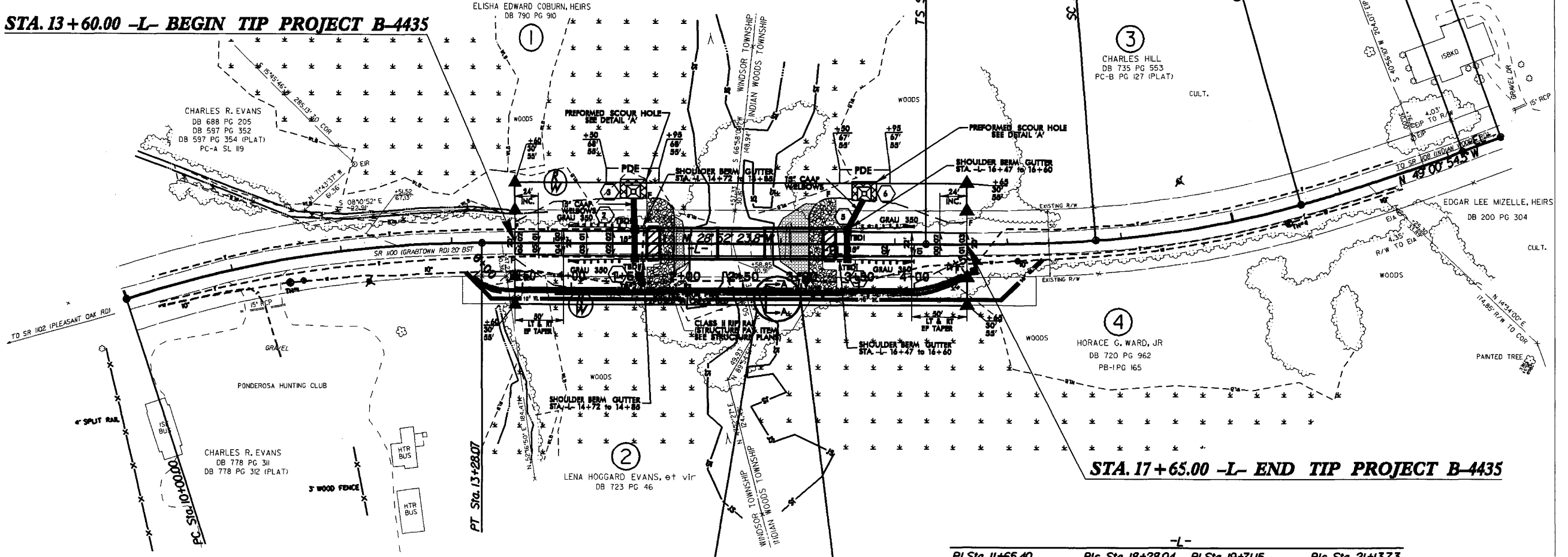
PROJECT REFERENCE NO. B-4435		SHEET NO. 4	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

FOR -L- PROFILE SEE SHEET 5

[Hatched Box Symbol] BRIDGE APPROACH SLAB

[Stippled Box Symbol] UNCLASSIFIED STRUCTURE EXCAVATION (STRUCTURE PAY ITEM)

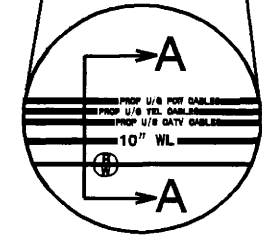
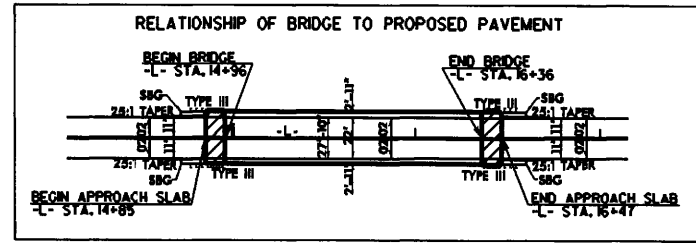
STA. 13+60.00 -L- BEGIN TIP PROJECT B-4435



10

20

STA. 17+65.00 -L- END TIP PROJECT B-4435



SEE A-A DETAIL

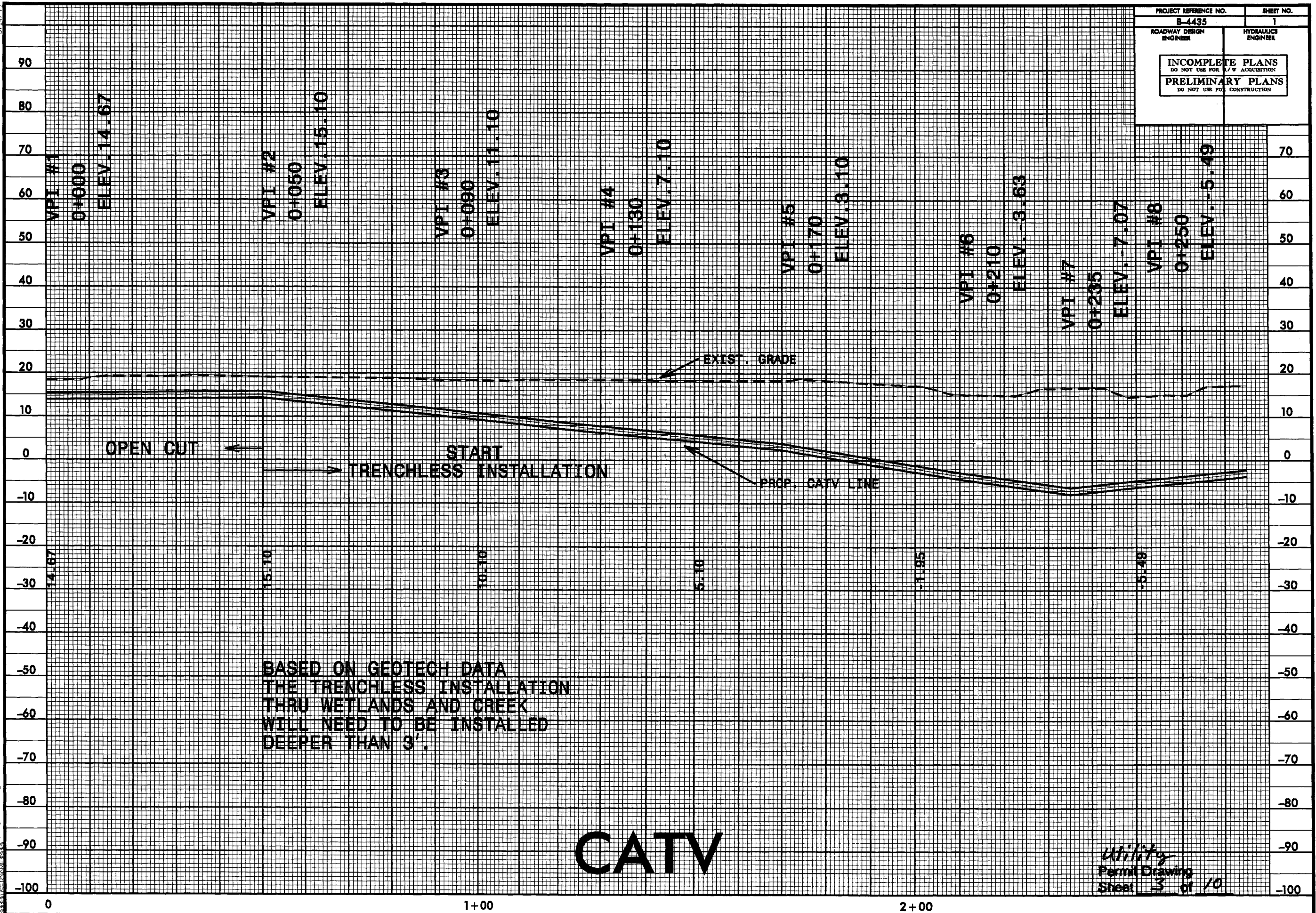
PI Sta 11+65.40 Δ = 18' 02' 37.5" (RT) D = 5' 30' 00.0" L = 328.07' T = 165.40' R = 1041.74'	PIs Sta 18+28.04 Θ s = 4' 30' 00.0" Ls = 150.00' LT = 100.03' ST = 50.03'	PI Sta 19+71.15 Δ = 11' 08' 30.7" (LT) D = 6' 00' 00.0" L = 185.70' T = 93.14' R = 954.93'	PIs Sta 21+13.73 Θ s = 4' 30' 00.0" Ls = 150.00' LT = 100.03' ST = 50.03'
SE = SEE PLANS			

Utility
Permit Drawing
Sheet 2 of 10

5/14/99

18-DEC-2008 14:40
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PROJECT REFERENCE NO. B-4435	SHEET NO. 1
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



BASED ON GEOTECH DATA
 THE TRENCHLESS INSTALLATION
 THRU WETLANDS AND CREEK
 WILL NEED TO BE INSTALLED
 DEEPER THAN 3'.

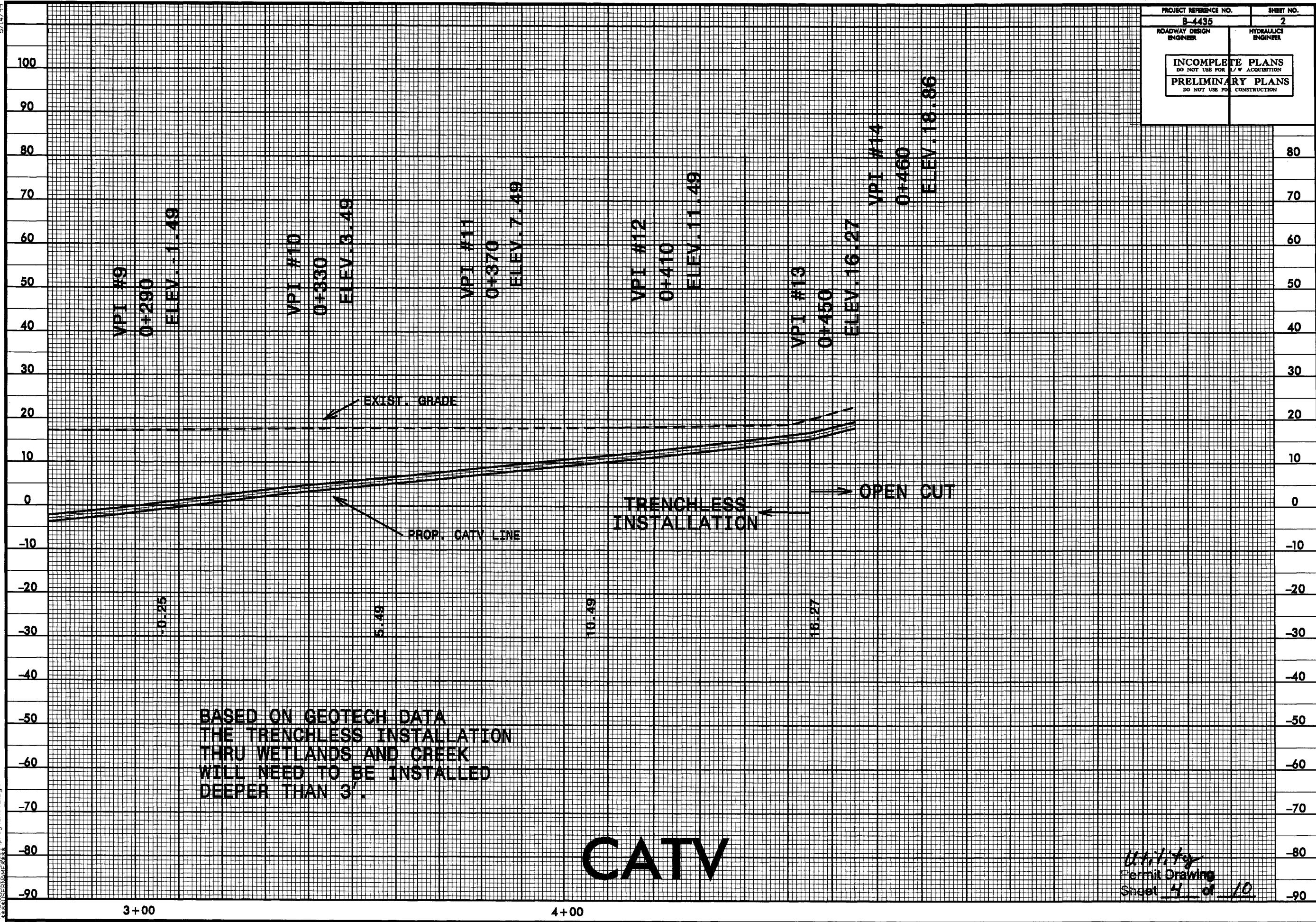
CATV

Utility
 Permit Drawing
 Sheet 3 of 10

5/14/99

18-DEC-2008 14:40
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PROJECT REFERENCE NO.	SHEET NO.
B-4435	2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR A/W ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	



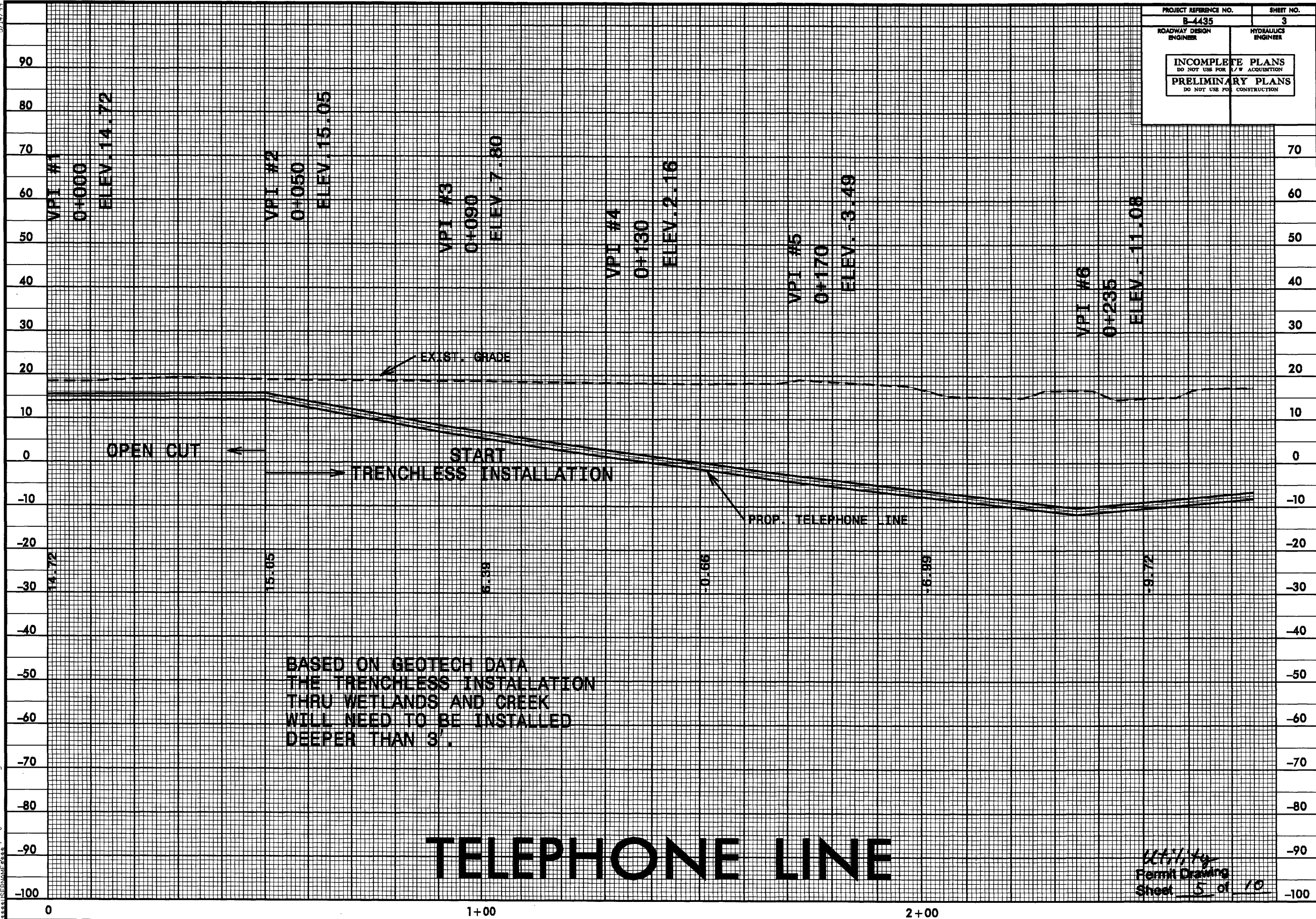
BASED ON GEOTECH DATA
 THE TRENCHLESS INSTALLATION
 THRU WETLANDS AND CREEK
 WILL NEED TO BE INSTALLED
 DEEPER THAN 3'.

CATV

Utility
 Permit Drawing
 Sheet 4 of 10

5/14/99
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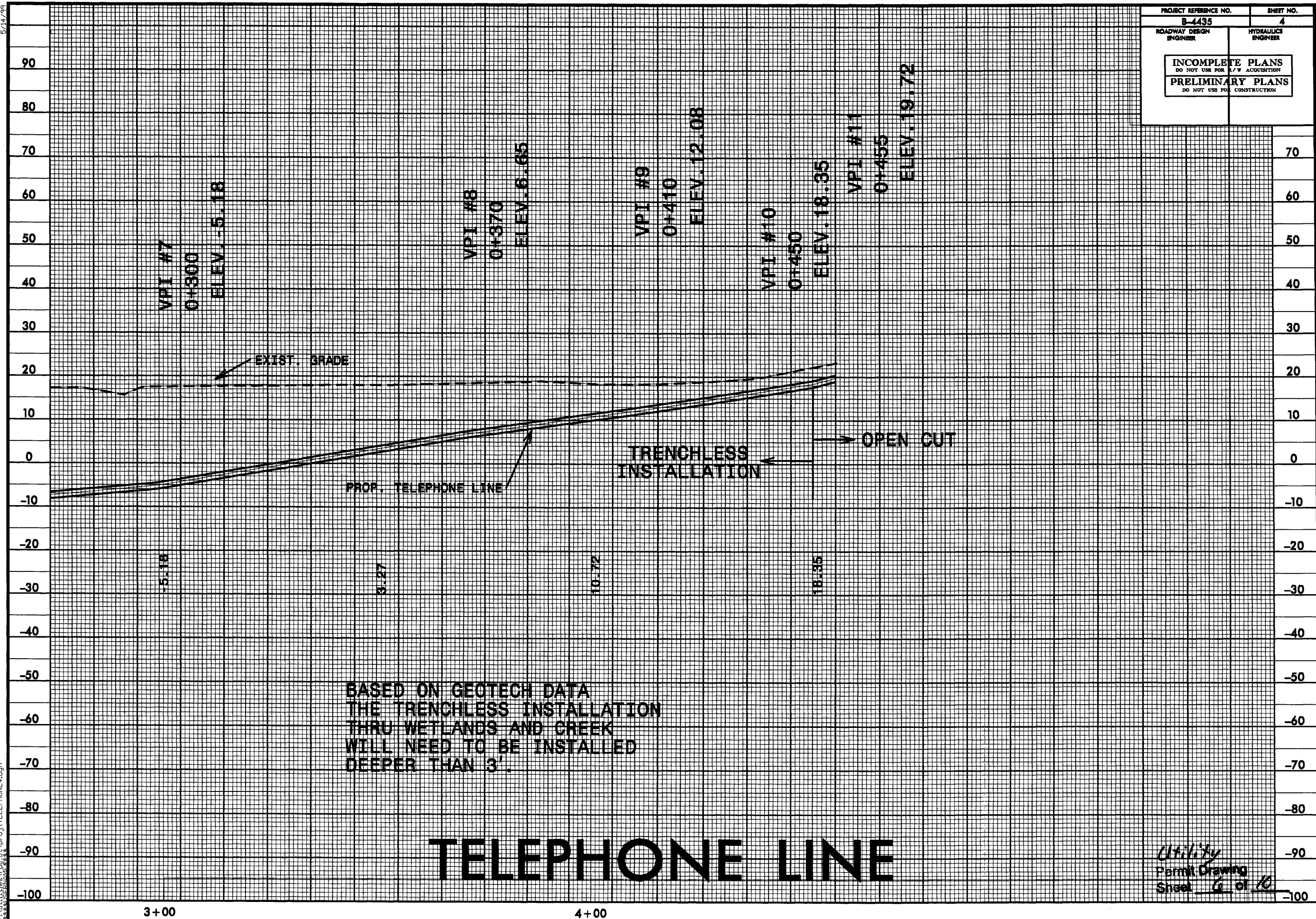
PROJECT REFERENCE NO. B-4435	SHEET NO. 3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



5/14/99

18-DEC-2008 14:44
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PROJECT REFERENCE NO. B-4435	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR R/W ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	



VPI #7
0+300
ELEV. -5.18

VPI #8
0+370
ELEV. 6.65

VPI #9
0+410
ELEV. 12.08

VPI #10
0+450
ELEV. 18.35

VPI #11
0+455
ELEV. 19.72

EXIST. GRADE

PROP. TELEPHONE LINE

TRENCHLESS
INSTALLATION

OPEN CUT

BASED ON GEOTECH DATA
THE TRENCHLESS INSTALLATION
THRU WETLANDS AND CREEK
WILL NEED TO BE INSTALLED
DEEPER THAN 3'.

TELEPHONE LINE

Utility
Permit Drawing
Sheet 6 of 10

3+00

4+00

70

60

50

40

30

20

10

0

-10

-20

-30

-40

-50

-60

-70

-80

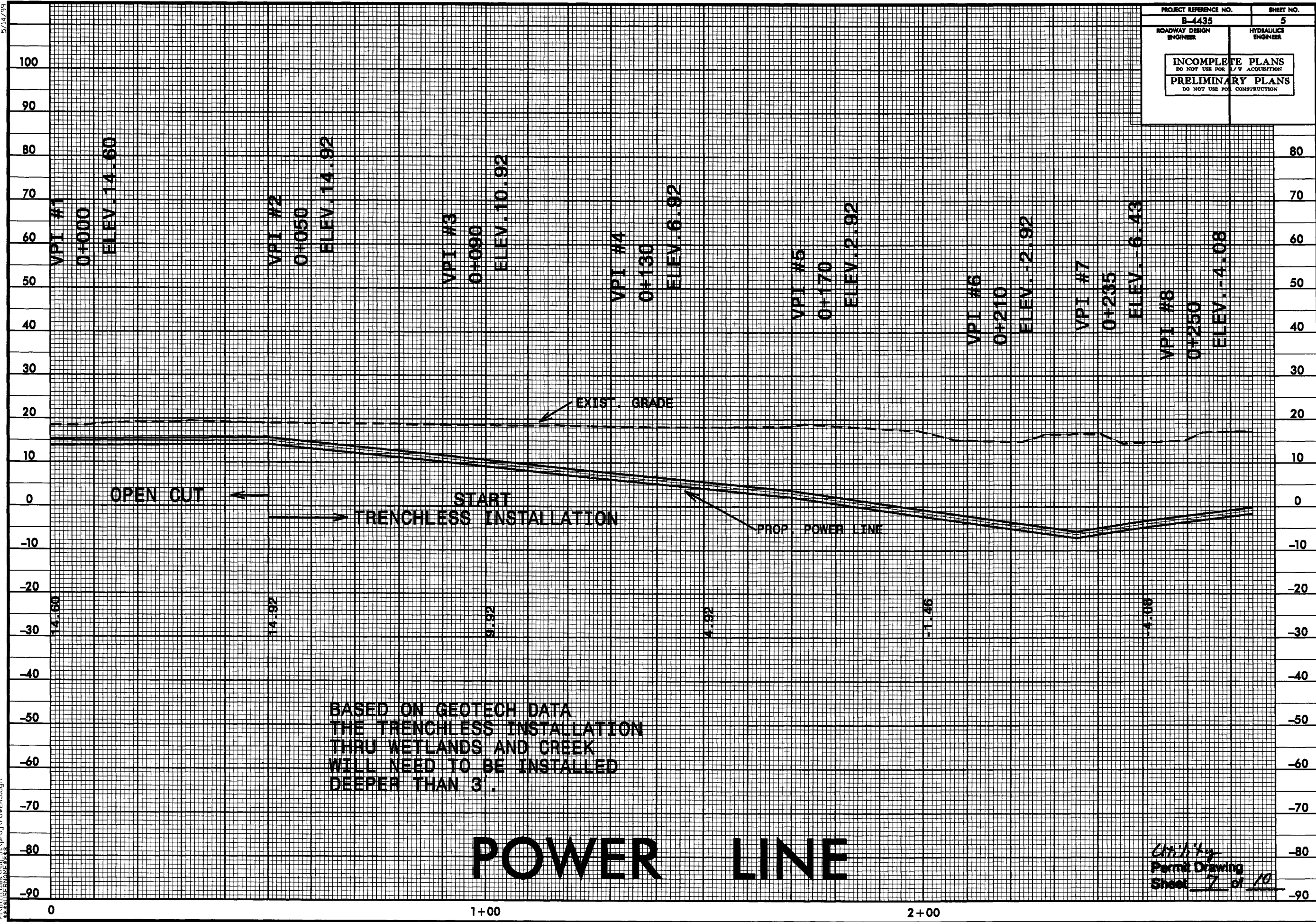
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-100

5/14/99

IB-DEC-2008 1449
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PROJECT REFERENCE NO. B-4435		SHEET NO. 5	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/V ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



BASED ON GEOTECH DATA
 THE TRENCHLESS INSTALLATION
 THRU WETLANDS AND CREEK
 WILL NEED TO BE INSTALLED
 DEEPER THAN 3'.

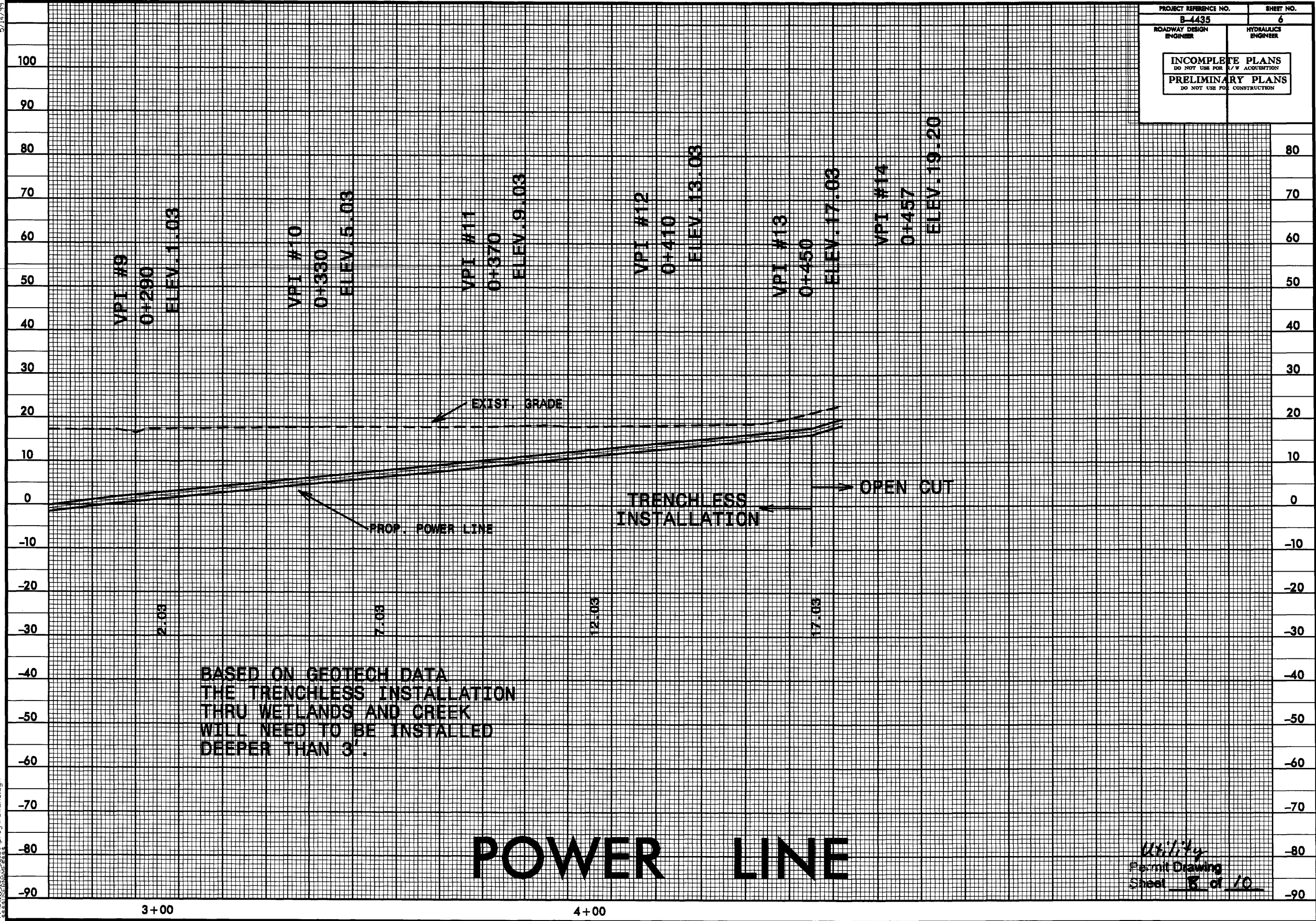
POWER LINE

Utility
 Permit Drawing
 Sheet 7 of 10

5/14/99

18-DEC-2008 14:50
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PROJECT REFERENCE NO. B-4435	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	



BASED ON GEOTECH DATA
 THE TRENCHLESS INSTALLATION
 THRU WETLANDS AND CREEK
 WILL NEED TO BE INSTALLED
 DEEPER THAN 3'.

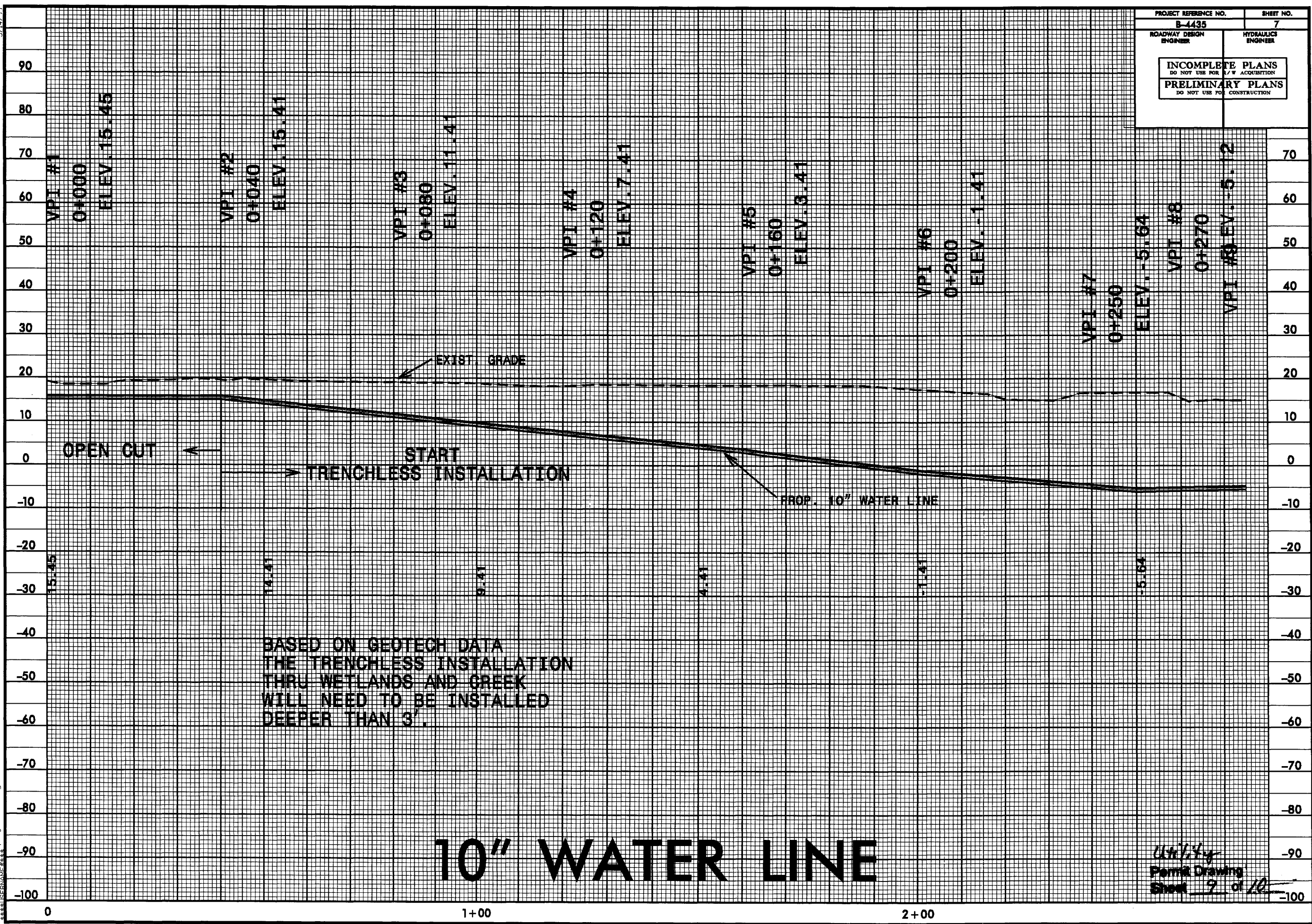
POWER LINE

Utility
 Permit Drawing
 Sheet 6 of 10

5/14/99

IR_DEC_2008_1452
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PROJECT REFERENCE NO. B-4435	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



BASED ON GEOTECH DATA
 THE TRENCHLESS INSTALLATION
 THRU WETLANDS AND CREEK
 WILL NEED TO BE INSTALLED
 DEEPER THAN 3'.

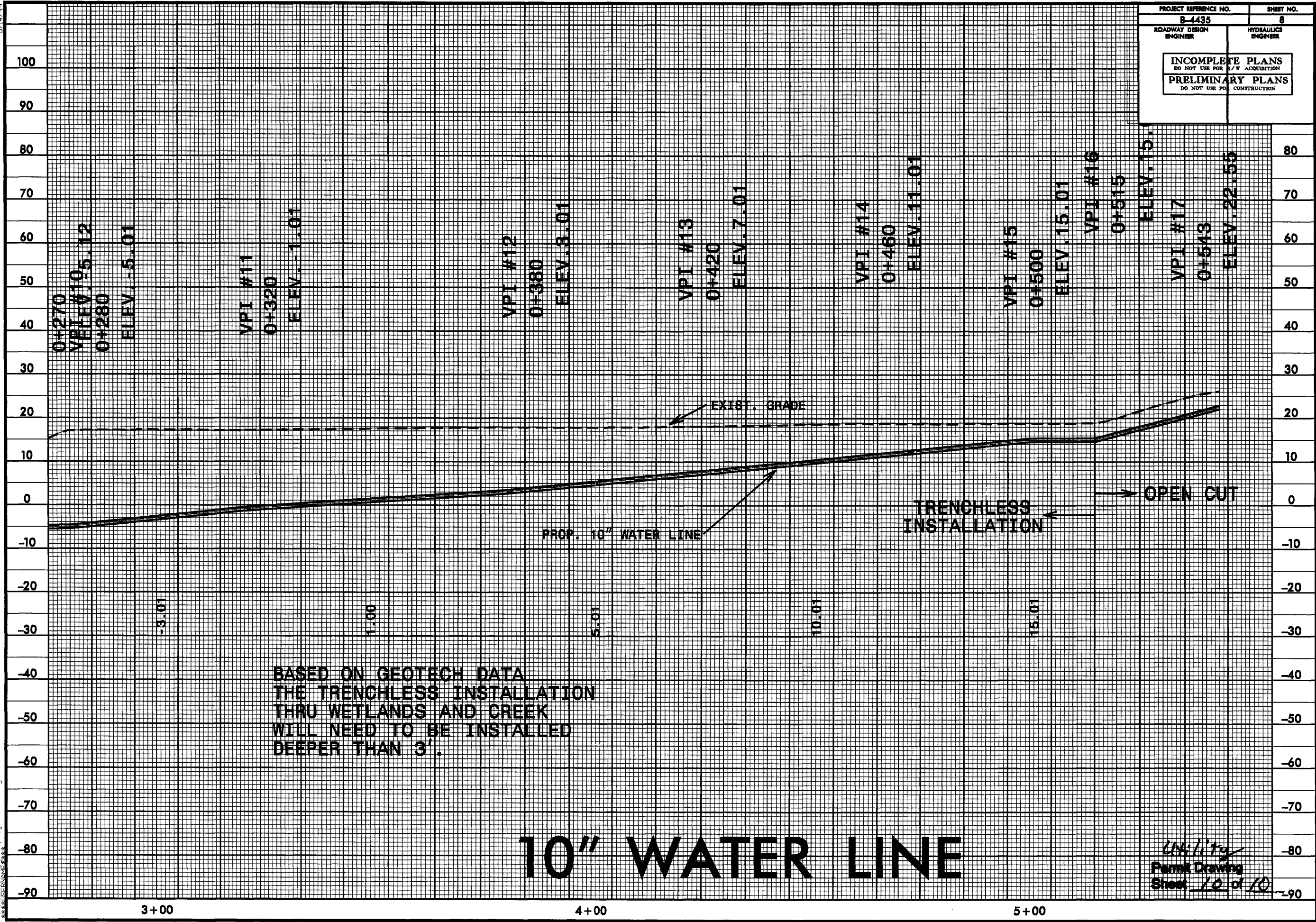
10" WATER LINE

Utility
 Permit Drawing
 Sheet 9 of 10

5/14/99

IB-DEC-2008_1453
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PROJECT REFERENCE NO. B-4435	SHEET NO. 8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR A/W ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	



BASED ON GEOTECH DATA
 THE TRENCHLESS INSTALLATION
 THRU WETLANDS AND CREEK
 WILL NEED TO BE INSTALLED
 DEEPER THAN 3'.

10" WATER LINE

Utility
 Permit Drawing
 Sheet 10 of 10

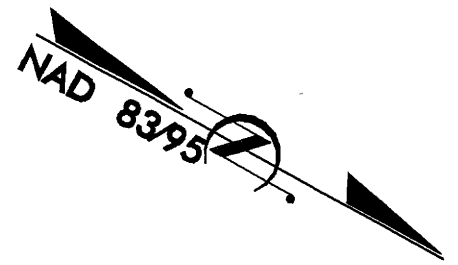
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4435	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33701.1.1	BRZ-1100(17)	PE	
33701.2.1	BRZ-1100(17)	RW & UTIL	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

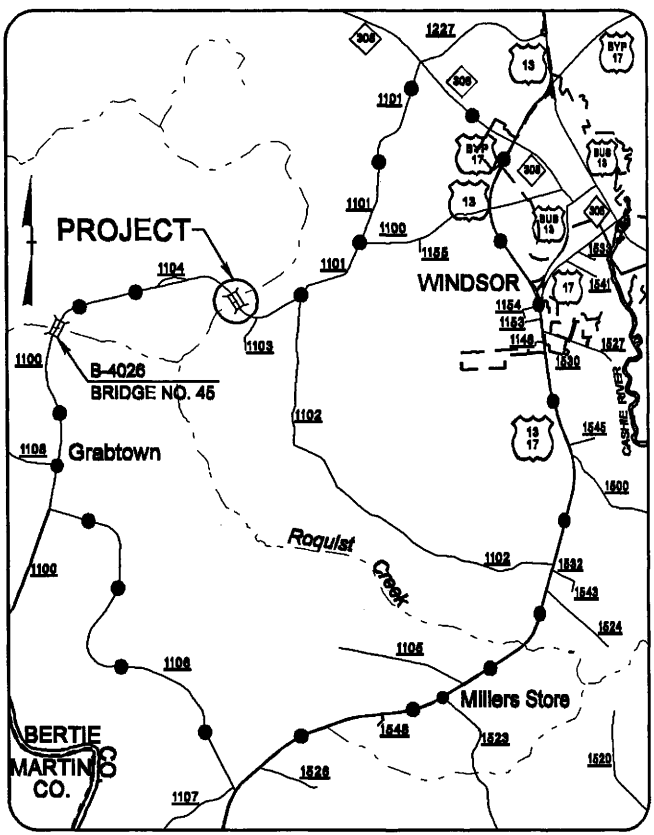
BERTIE COUNTY

LOCATION: BRIDGE NO. 44 OVER ROQUIST CREEK ON SR 1100

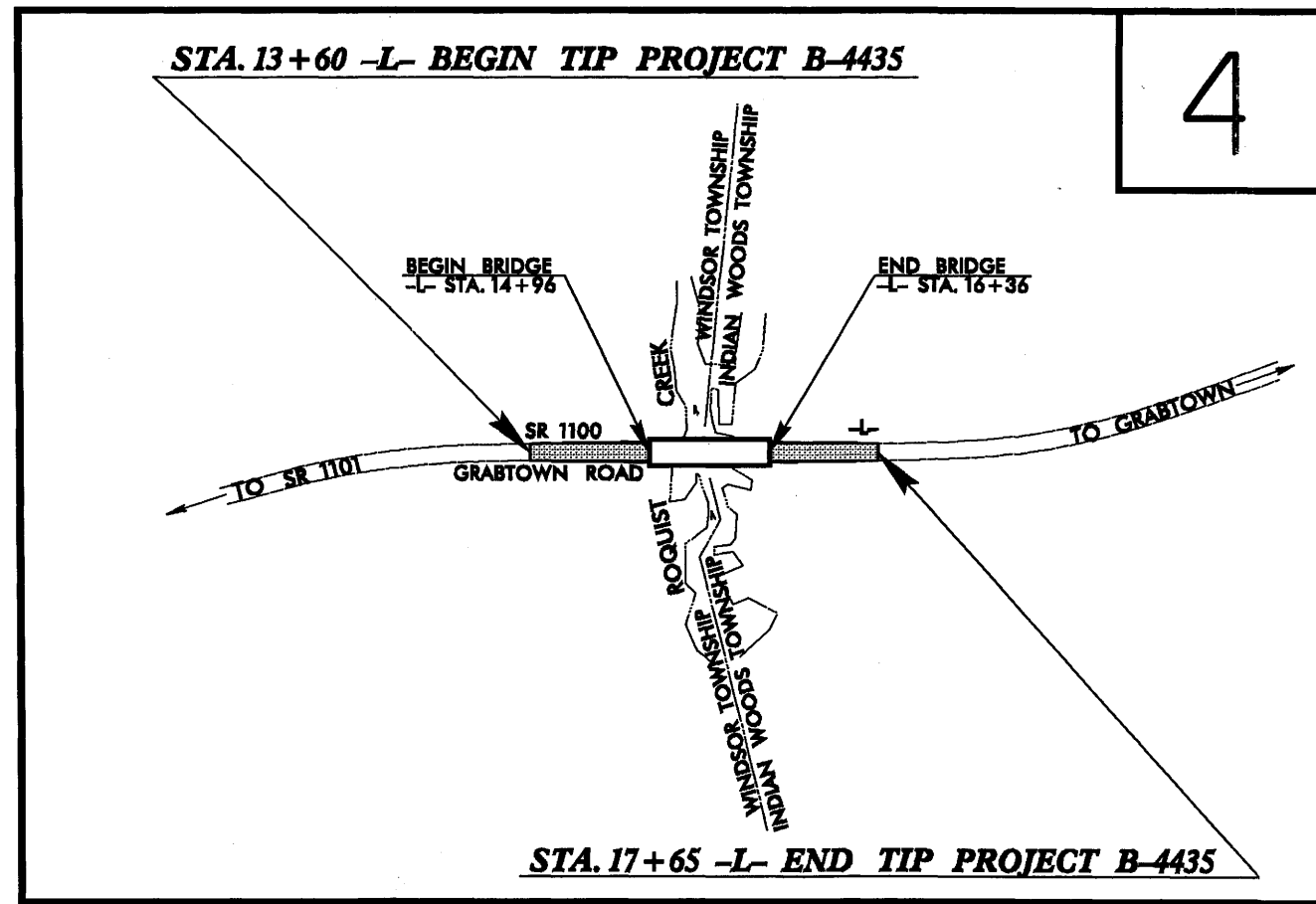
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE



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

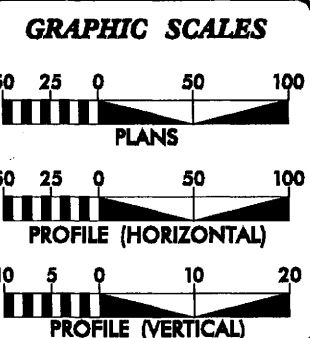


VICINITY MAP
●●●●● DETOUR ROUTE



THIS PROJECT WAS DESIGNED USING THE SUB REGIONAL TIER DESIGN GUIDELINES FOR BRIDGE PROJECTS.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT 2010 =	1,208
ADT 2030 =	1,900
DHV =	10 %
D =	60 %
T =	3 %
V =	50 MPH
* TTST 1%	DUAL 2%
FUNC. CLASS =	RURAL COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4435	=	0.050 MILES
LENGTH STRUCTURE TIP PROJECT B-4435	=	0.027 MILES
TOTAL LENGTH TIP PROJECT B-4435	=	0.077 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
January 7, 2009

LETTING DATE:
January 19, 2010

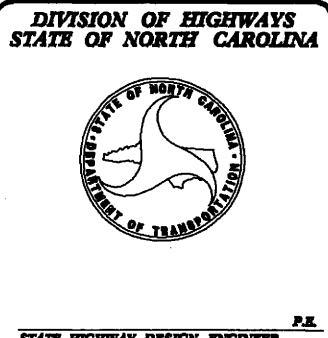
GARY LOVERING, PE
PROJECT ENGINEER

RON McCOLLUM, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

STATE HIGHWAY DESIGN ENGINEER



TIP PROJECT: B-4435

CONTRACT:

09/08/99 4-FEB-2009 11:12 \\P050001\proj\104435_rdy_tsh.dgn \$\$\$USERNAME\$\$\$

3/15/06

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	⊙ 23
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	⊠
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	W.B.
Proposed Wetland Boundary	W.B.
Existing Endangered Animal Boundary	E.A.B.
Existing Endangered Plant Boundary	E.P.B.

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	W.B.
Proposed Lateral, Tail, Head Ditch	-----
False Sump	-----

RAILROADS:

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

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	⊙
Proposed Control of Access	⊙
Existing Easement Line	E
Proposed Temporary Construction Easement	E
Proposed Temporary Drainage Easement	TDE
Proposed Permanent Drainage Easement	PDE
Proposed Permanent Utility Easement	PUE
Proposed Temporary Utility Easement	TUE
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	C
Proposed Slope Stakes Fill	F
Proposed Wheel Chair Ramp	WCR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----

VEGETATION:

Single Tree	⊙
Single Shrub	○
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊙
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	⊠
U/G 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	⊠
U/G 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	A/G Water

TV:

TV Satellite Dish	⊙
TV Pedestal	⊠
TV Tower	⊙
U/G 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	A/G Gas

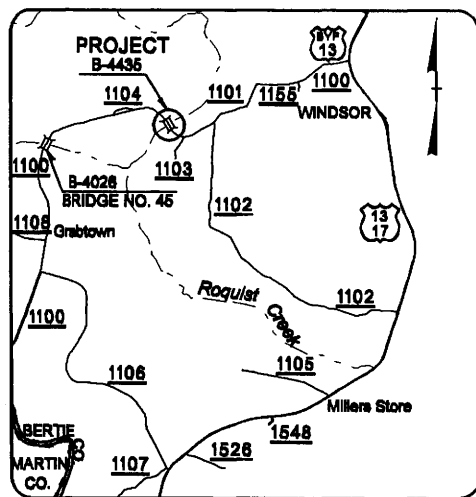
SANITARY SEWER:

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

MISCELLANEOUS:

Utility Pole	⊙
Utility Pole with Base	⊠
Utility Located Object	⊙
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line	U/L
U/G Tank; Water, Gas, Oil	⊠
A/G Tank; Water, Gas, Oil	⊠
U/G Test Hole (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

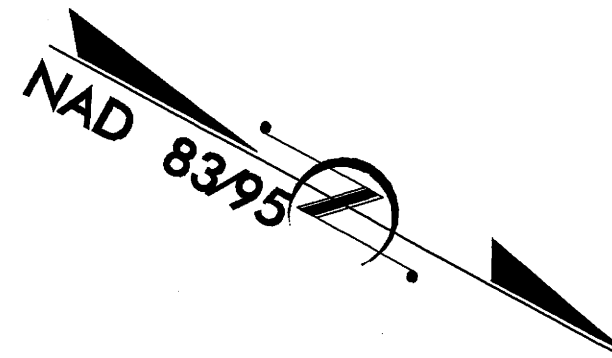
SURVEY CONTROL SHEET B-4435



VICINITY MAP

STA. 13+60 -L- BEGIN TIP PROJECT B-4435

LOCALIZED PROJECT COORDINATES
 N= 819,908.0614
 E= 2,590,563.1259



NCDOT GPS STATION "B4435-3"
 LOCALIZED PROJECT COORDINATES
 N= 818,879.2670
 E= 2,590,808.1170

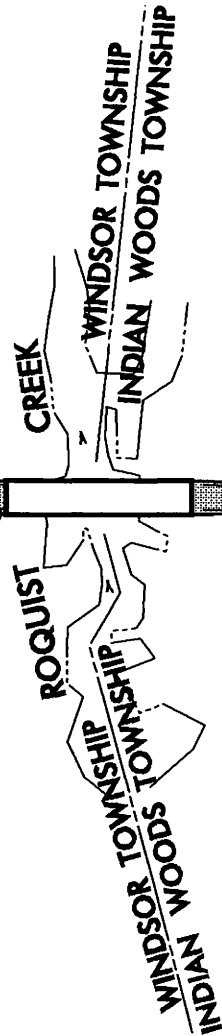
TO SR 1101

SR 1100

GRABTOWN ROAD
 NCDOT BASELINE STATION "BLS"
 LOCALIZED PROJECT COORDINATES
 N= 819,317.3690
 E= 2,590,618.8090

NCDOT GPS STATION "B4435-1"
 LOCALIZED PROJECT COORDINATES
 N= 819,872.3370
 E= 2,590,140.5350

TO SR 1103



STA. 17+65 -L- END TIP PROJECT B-4435

LOCALIZED PROJECT COORDINATES
 N= 819,563.6773
 E= 2,590,367.5104

CONTROL DATA

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
B44352	GPS	B4435-2	818879.2670	2590808.1170	25.76	OUTSIDE PROJECT LIMITS	
BL3		BL-3	819317.3890	2590518.8030	25.52	14+76.27	13.50 RT
B44351	GPS	B4435-1	819872.3370	2590140.5350	25.24	21+47.88	12.87 RT

BENCHMARK DATA

.....
 BM4 ELEVATION = 24.26
 N 818855 E 2590924
 L STATION 10+00
 S 64° 51' 17.9" E DIST 160.00
 R/R SPIKE IN BASE OF 30' PINE

 BM5 ELEVATION = 25.22
 N 819862 E 2590095
 L STATION 21+75 25 LEFT
 R/R SPIKE IN BASE OF 12' GUM

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4435-1"
 WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
 NORTHING: 819872.337(±) EASTING: 2590140.535(±)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999592
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4435-1" TO -L- STATION 13+60 IS
 S°32' 30" 07" E 786.467ft
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTES:

THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING
[HTTP://WW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT](http://ww.doh.dot.state.nc.us/preconstruct/highway/location/project)

FILE: b4435_ls_control_080528.txt

SITE CALIBRATION PARAMETERS HAVE NOT BEEN DETERMINED 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 UTILIZING GLOBAL POSITIONING SYSTEM, BY RTK METHOD FROM PROJECT B-4026.

NOTE: DRAWING NOT TO SCALE

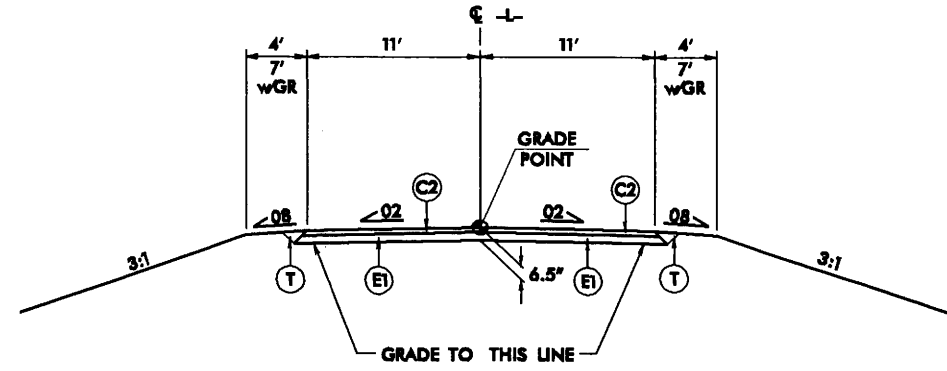
6/2/09

PAVEMENT SCHEDULE FINAL DESIGN	
C1	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 455 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 8 1/2" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

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

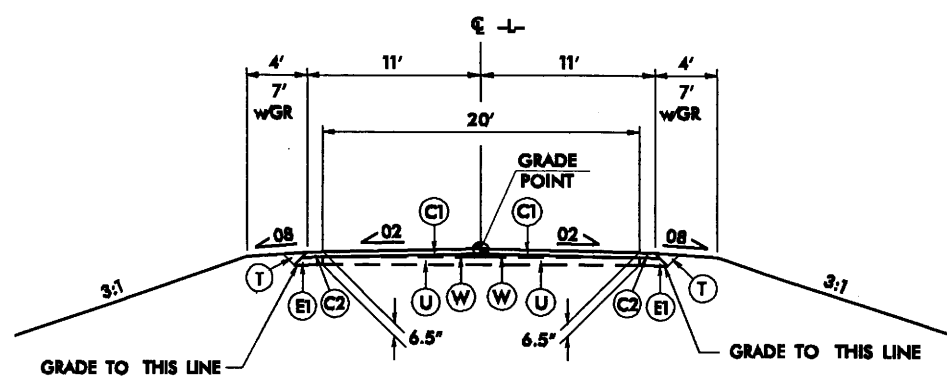
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PROJECT REFERENCE NO. B-4435	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS	



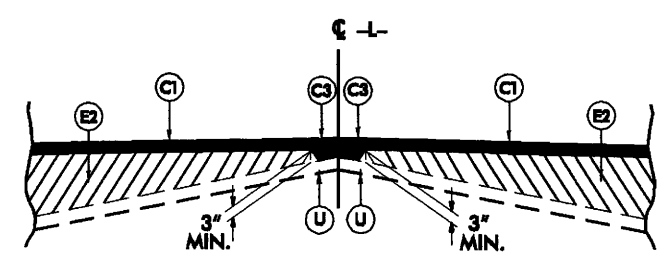
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
 -L- STA. 14+82.00 TO -L- STA. 14+96.00 (BEGIN BRIDGE)
 -L- STA. 16+36.00 (END BRIDGE) TO -L- STA. 16+50.00

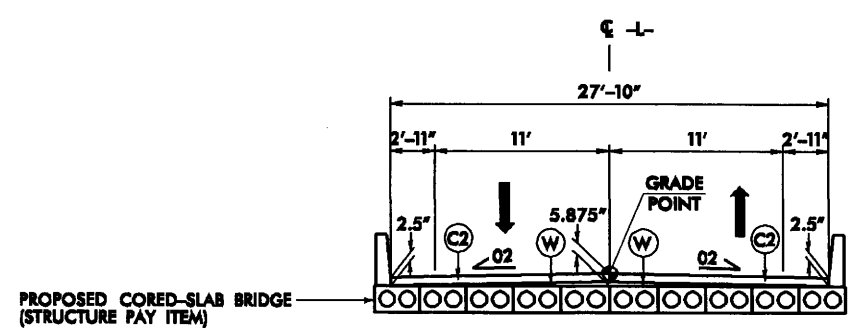


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
 -L- STA. 13+60.00 TO -L- STA. 14+82.00
 -L- STA. 16+50.00 TO -L- STA. 17+65.00



Wedging Detail



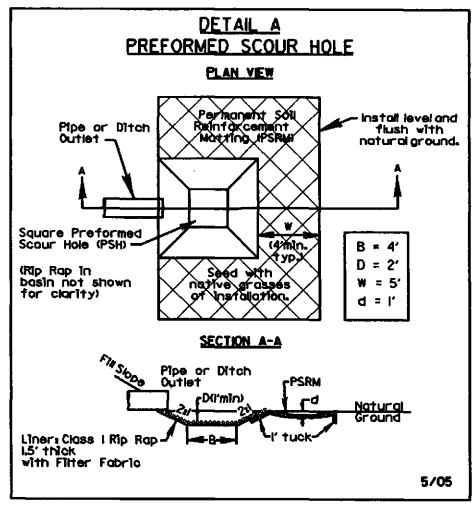
TYPICAL SECTION ON STRUCTURE

USE TYPICAL SECTION ON STRUCTURE
 -L- STA. 14+96.00 (BEGIN BRIDGE) TO
 -L- STA. 16+36.00 (END BRIDGE)

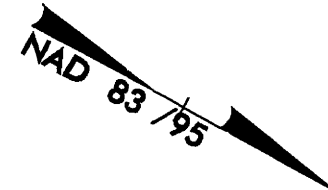
8/17/99

PROJECT REFERENCE NO. B-4435		SHEET NO. 4	
RW SHEET NO.		HYDRAULIC ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULIC ENGINEER	
PRELIMINARY PLANS			

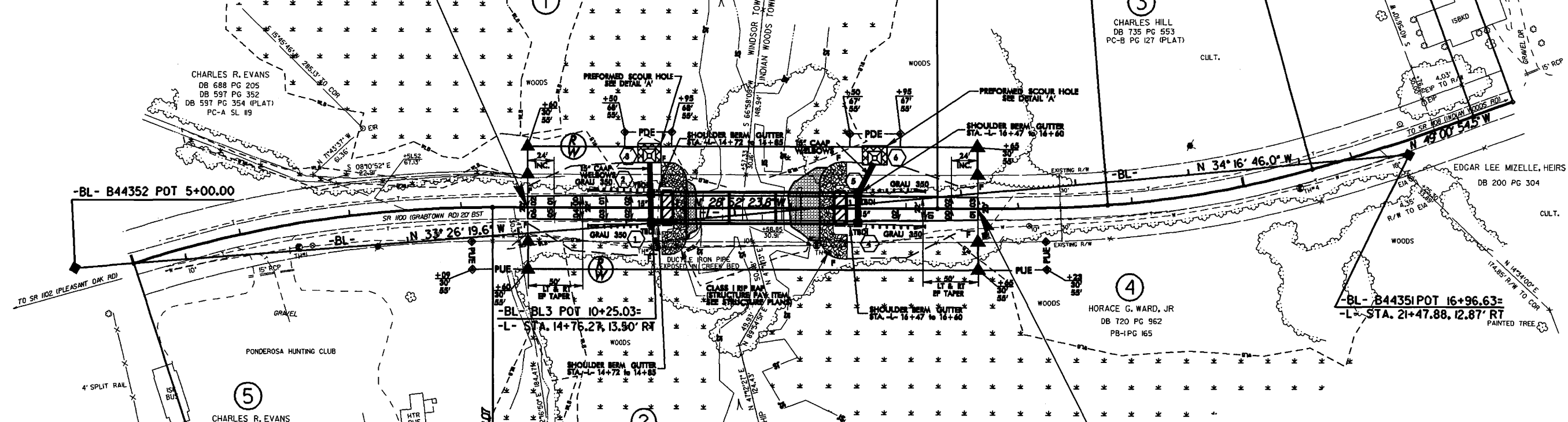
FOR -L- PROFILE SEE SHEET 5
 [Hatched Box] BRIDGE APPROACH SLAB
 [Dotted Box] UNCLASSIFIED STRUCTURE EXCAVATION (STRUCTURE PAY ITEM)



-L- 14+73 LT
 -L- 16+72 LT

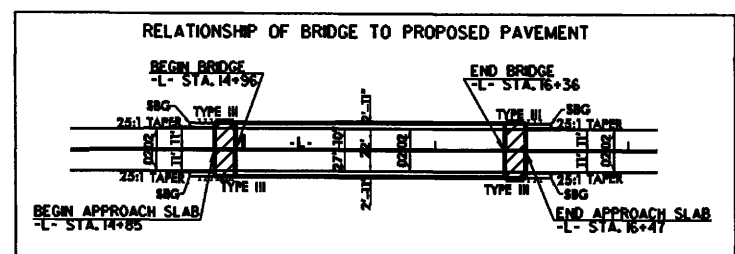


STA. 13+60.00 -L- BEGIN TIP PROJECT B-4435



STA. 17+65.00 -L- END TIP PROJECT B-4435

-L-			
PI Sta 11+65.40	PIs Sta 18+28.04	PI Sta 19+71.15	PIs Sta 21+13.73
$\Delta = 18^{\circ} 02' 37.5\" (RT)$	$\Theta_s = 4^{\circ} 30' 00.0\"$	$\Delta = 11^{\circ} 08' 30.7\" (LT)$	$\Theta_s = 4^{\circ} 30' 00.0\"$
$D = 5^{\circ} 30' 00.0\"$	$L_s = 150.00'$	$D = 6^{\circ} 00' 00.0\"$	$L_s = 150.00'$
$L = 328.07'$	$LT = 100.03'$	$L = 185.70'$	$LT = 100.03'$
$T = 165.40'$	$ST = 50.03'$	$T = 93.14'$	$ST = 50.03'$
$R = 1,041.74'$		$R = 954.93'$	
		SE = SEE PLANS	



01-27-09 - RAW REVISION - ADDED PERMANENT UTILITY EASEMENTS TO PARCELS 2,4, AND 5

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 \$\$\$\$SYSTRANS\$\$\$\$

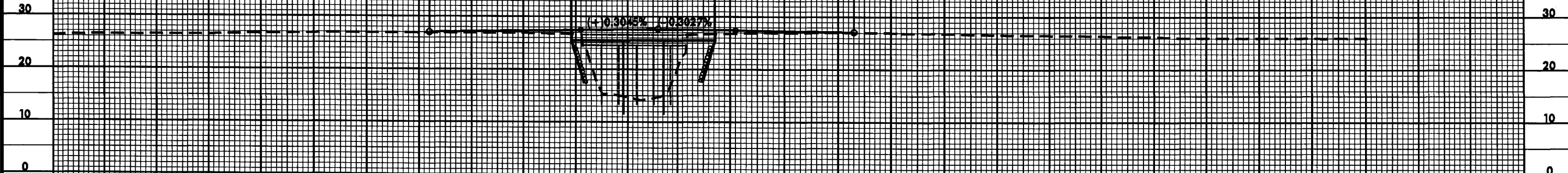
PROJECT REFERENCE NO. B-4435	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULIC ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BM #4 RR SPIKE IN BASE OF 30" PINE
L- STA. 10+00
S: 64° 51' 17.9" E DIST 160.00'
ELEV. = 24.26'

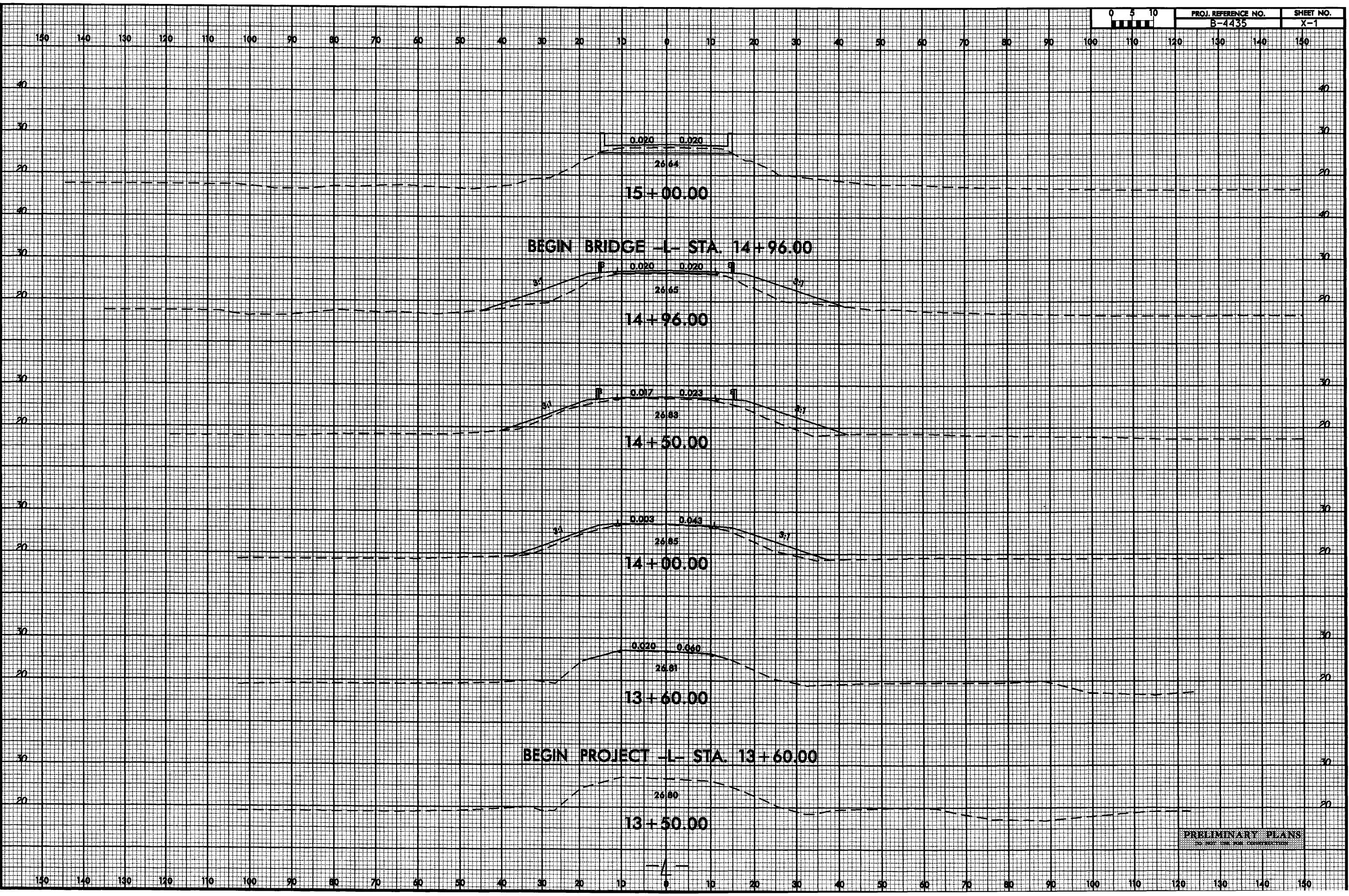
BM #5 RR SPIKE IN BASE OF 12" GUM
25' LEFT OF L- STA. 21+75
ELEV. = 25.22'

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 2400	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 23.5	FT
BASE DISCHARGE	= 3665	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 25.0	FT
OVERTOPPING DISCHARGE	= 5750	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 26.3	FT
EST. NORM. W.S. ELEV.	= 17.5	FT
DATE OF SURVEY	= APRIL 2008	
W.S. ELEVATION AT DATE OF SURVEY	= 17.5	FT



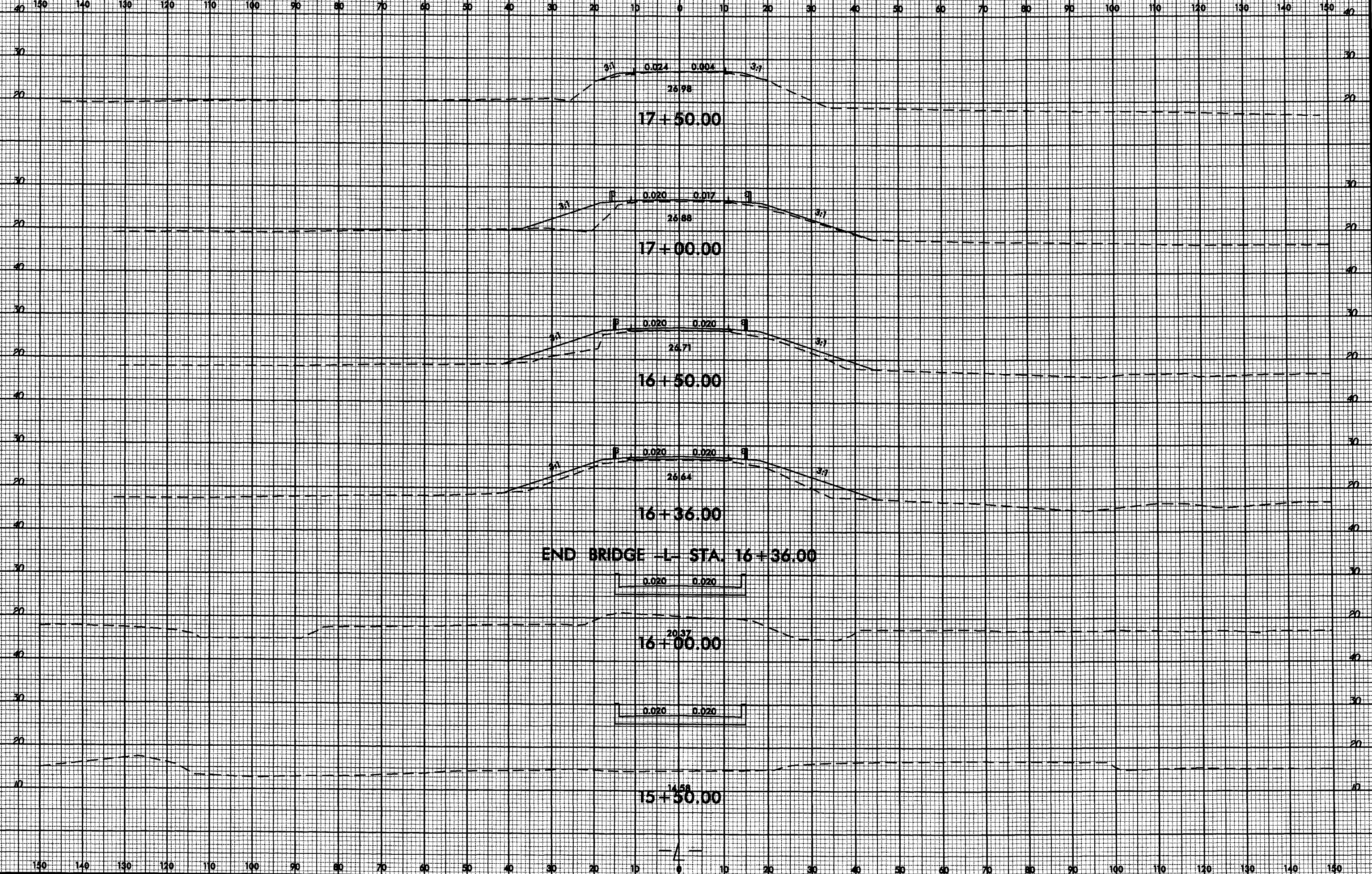
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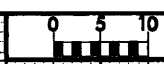
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/23/99

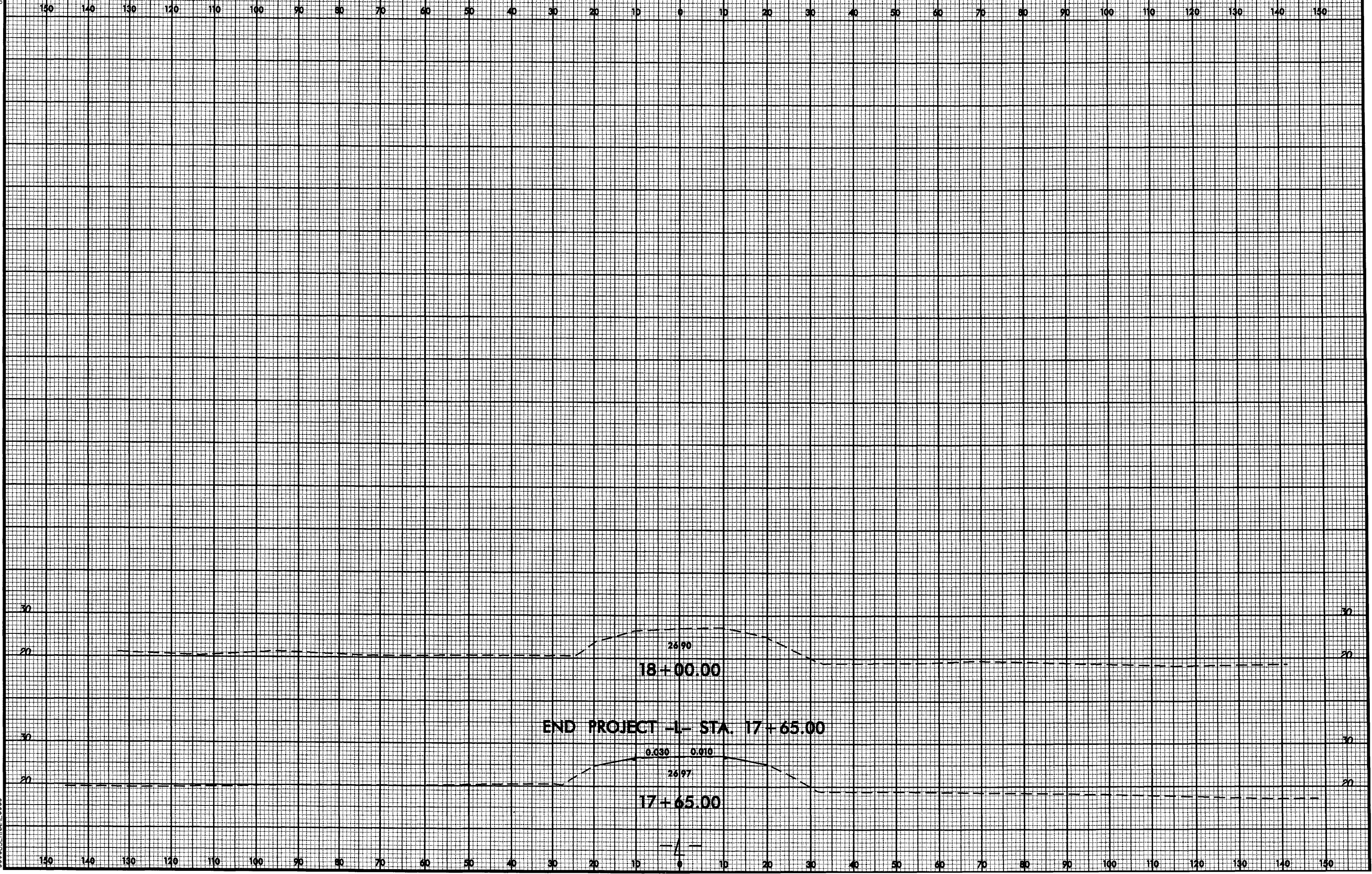


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8/23/99



PROJ. REFERENCE NO. B-4435	SHEET NO. X-3
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