



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

EUGENE A. CONTI, JR.  
SECRETARY

May 24, 2012

U. S. Army Corps of Engineers  
Regulatory Field Office  
69 Darlington Avenue  
Wilmington NC 28402-1890

ATTN: Mr. Ronnie Smith  
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permits 23 and Section 401 Water Quality Certification** for the proposed replacement of Bridge No. 47 over the Lumber River on US 401 in Scotland and Hoke Counties, Federal Aid Project No. BRNHS-401(14); Division 8; TIP No. B-4273

\$240.00 debit WBS 33614.1.1

Dear Madam:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 47 over the Lumber River on US 401 with a bridge. The current structure is a six-span bridge approximately 240 feet in length. The replacement structure will be a four-span bridge approximately 260 feet in length. An on-site detour will be used to control traffic during construction. There will be a total of 1.01 acres of permanent impact to wetlands for the project. The 1.01 acres of permanent impact to riparian wetlands are due to the construction of the new bridge. There will be 0.65 acres of temporary wetland impacts due to fill for the on-site detour and use of a work bridge. An additional 0.26 acres of impact will occur due to hand clearing of wetlands in the vicinity of the temporary detour.

Please see enclosed copies of the Pre-Construction Notification (PCN), NCEEP acceptance letter, jurisdictional determination forms, stormwater management plan, permit drawings and design plans for the above mentioned project. The Categorical Exclusion (CE) was completed in January 2007. Copies were distributed shortly thereafter. Additional copies are available upon request.

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

TELEPHONE: 919-707-6100  
FAX: 919-212-5785  
**WEBSITE:** [WWW.NCDOT.ORG](http://WWW.NCDOT.ORG)

**LOCATION:**  
1020 BIRCH RIDGE DRIVE  
RALEIGH NC 27610-4328

This project calls for a letting date of November 20, 2012 and a review date of October 2, 2012; however, the let date may advance as additional funding becomes available.

A copy of this permit application and its distribution list 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 Jason Dilday at (919) 707-6111.

Sincerely,



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

The “cc” List:

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 checked="" type="checkbox"/> Yes <input 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 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

#### 2. Project Information

2a. Name of project:	Replacement of Bridge 47 over the Lumber River on US 401
2b. County:	Scotland/Hoke
2c. Nearest municipality / town:	Wagram
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-4273

#### 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) 707-6111
3g. Fax no.:	(919) 212-5785
3h. Email address:	jldilday@ncdot.gov

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

<b>B. Project Information and Prior Project History</b>	
<b>1. Property Identification</b>	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 34.900180 (DD.DDDDDD) Longitude: -79.349092 (-DD.DDDDDD)
1c. Property size:	10.0 acres
<b>2. Surface Waters</b>	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Lumber River
2b. Water Quality Classification of nearest receiving water:	WS-IV, B, Sw, HQW
2c. River basin:	Lumber
<b>3. Project Description</b>	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application:  US 401 is a major highway route serving overweight traffic. Land use within the project vicinity consists of forested wetlands. Also included in the vicinity is are lands owned by NC Parks and Recreation and a NC Wildlife Resource Commission boat ramp.	
3b. List the total estimated acreage of all existing wetlands on the property:  8	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property:  200	
3d. Explain the purpose of the proposed project: To replace a structurally deficient and functionally obsolete bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a six-span, 240-foot bridge with a four-span, 260-foot bridge on the existing alignment with an on-site detour. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
<b>4. Jurisdictional Determinations</b>	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments: A final JD is anticipated to be issued at permitting.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):	Agency/Consultant Company: Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation.	
<b>5. Project History</b>	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	
<b>6. Future Project Plans</b>	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

C. Proposed Impacts Inventory						
1. Impacts Summary						
1a. Which sections were completed below for your project (check all that apply):						
<input checked="" type="checkbox"/> Wetlands		<input checked="" type="checkbox"/> Streams - tributaries		<input type="checkbox"/> Buffers		
<input type="checkbox"/> Open Waters		<input type="checkbox"/> 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	Proposed bridge/Fill	Riverine Swamp Forest	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.64	
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Proposed bridge/Mech. Clearing	Riverine Swamp Forest	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.37	
Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Detour/Temp. Fill	Riverine Swamp Forest	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.50	
Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Work Bridge/Temp. Fill	Riverine Swamp Forest	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.15	
Site 1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
<b>2g. Total wetland impacts</b>					1.01 ac. Permanent 0.65 ac. Temporary	
2h. Comments: 0.26 acres of wetland impact will occur due to hand clearing in the vicinity of the on-site detour.						
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 checked="" type="checkbox"/> P <input type="checkbox"/> T	Bridge bents		<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		<0.01 ac.
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**

<0.01 ac.  
Permanent

3i. Comments: Bent 1 impact=8.4 sq.ft., Bent 2 impact=11.2 sq.ft., Bent 3 impact=11.2 sq.ft. Total impact=30.8 sq. ft.

**4. Open Water Impacts**

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

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

4g. Comments:

**5. Pond or Lake Construction**

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

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

5g. Comments:

5h. Is a dam high hazard permit required?	<input type="checkbox"/> Yes <input type="checkbox"/> No      If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)					
If project will impact a protected riparian buffer, then complete the chart below. If yes, then individually list all buffer impacts below. If any impacts require mitigation, then you <b>MUST</b> 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		
<b>6h. Total buffer impacts</b>					
6i. Comments:					

D. Impact Justification and Mitigation	
<b>1. Avoidance and Minimization</b>	
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.  The proposed bridge replaces a 6-span bridge with a 4-span bridge, meaning less bents in the water. The bridge will be replaced at its existing location. The bridge will be replaced at approximately the same grade and footprint as the original bridge. Replacement of the bridge will use a temporary work bridge. Design was modified to minimize impact to NC Department of Parks and Recreation land and the NCWRC boat ramp. No impacts causing "loss of Waters of the US" will occur to the Lumber River. In areas where temporary fill will occur in wetlands, fiber coir matting will be placed between wetland materials and fill materials. After construction, fill material and fiber coir matting will be removed.	
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.  NCDOT Best Management Practices for Bridge Demolition and Removal will be implemented during the removal of the existing bridge; Best Management Practices for the Protection of Surface Waters will be employed; Design Standards in Sensitive Watersheds will be employed.	
<b>2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State</b>	
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, explain:
2b. If yes, mitigation is required by (check all that apply):	<input type="checkbox"/> DWQ <input type="checkbox"/> Corps
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input checked="" type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> Permittee Responsible Mitigation

<b>3. Complete if Using a Mitigation Bank</b>				
3a. Name of Mitigation Bank: not applicable				
3b. Credits Purchased (attach receipt and letter)		Type	Quantity	
3c. Comments:				
<b>4. Complete if Making a Payment to In-lieu Fee Program</b>				
4a. Approval letter from in-lieu fee program is attached.		<input checked="" type="checkbox"/> Yes		
4b. Stream mitigation requested:		0 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:		2.02 acres		
4f. Non-riparian wetland mitigation requested:		acres		
4g. Coastal (tidal) wetland mitigation requested:		acres		
4h. Comments:				
<b>5. Complete if Using a Permittee Responsible Mitigation Plan</b>				
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.				
<b>6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ</b>				
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	
<b>6f. Total buffer mitigation required:</b>				<b>0</b>
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:				

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

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

<b>5. Endangered Species and Designated Critical Habitat (Corps Requirement)</b>		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input checked="" type="checkbox"/> Raleigh	<input type="checkbox"/> Asheville
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? N.C. Natural Heritage Program database; USFWS-Raleigh Field Office website; biological surveys for protected species listed for Scotland/Hoke Counties, which include American alligator, red-cockaded woodpecker, Michaux's sumac, Saint Francis' satyr, rough-leaved loosestrife, Canby's dropwort and American chaffseed. All species received a Biological Conclusion of "No Effect". No habitat is present in the study area for Saint Francis' satyr, rough-leaved loosestrife, American chaffseed or red-cockaded woodpecker. Habitat is present for Michaux's sumac and Canby's dropwort, but surveys conducted of the study area resulted in no specimens being found. American alligator does not require surveys.		
<b>6. Essential Fish Habitat (Corps Requirement)</b>		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
<b>7. Historic or Prehistoric Cultural Resources (Corps Requirement)</b>		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
<b>8. Flood Zone Designation (Corps Requirement)</b>		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
<u>Dr. Gregory J. Thorpe, Ph D</u> Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	5-24-12 Date



May 3, 2012

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

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

**B-4273, Replace Bridge Number 47 over the Lumber River on US 401, Scotland County**

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory riparian wetland mitigation for the subject project. Based on the information supplied by you on April 26, 2012, the impacts are located in CU 03040203 of the Lumber River basin in the Southern Inner Coastal Plain (SICP) Eco-Region, and are as follows:

Lumber 03040203 SICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non- Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	1.01	0	0	0	0

EEP commits to implementing sufficient compensatory riparian wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies in accordance with the N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

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

Sincerely,

Michael Ellison  
 EEP Deputy Director

cc: Mr. Ronnie Smith, USACE – Wilmington Regulatory Field Office  
 Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit  
 File: B-4273

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



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

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

**SECTION I: BACKGROUND INFORMATION**

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

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: B-4273 (Bridge No. 47 over Lumber River on US 401)**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: NC County/parish/borough: Scotland/Hoke City: Wagram  
 Center coordinates of site (lat/long in degree decimal format): Lat. 34.900180° N, Long. 79.349092° W.  
 Universal Transverse Mercator:

Name of nearest waterbody: Lumber River

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

Name of watershed or Hydrologic Unit Code (HUC): 03040203

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

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

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

Office (Desk) Determination. Date:

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

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

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

Waters subject to the ebb and flow of the tide.

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

Explain: .

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

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

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

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

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

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

Non-wetland waters: 600 linear feet: 50-100 width (ft) and/or acres.

Wetlands: 3.00 acres.

**c. Limits (boundaries) of jurisdiction based on: **Established by OHWM.****

Elevation of established OHWM (if known): .

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

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

Explain: .

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

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

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

**SECTION III: CWA ANALYSIS**

**A. TNWs AND WETLANDS ADJACENT TO TNWs**

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

**1. TNW**

Identify TNW: **Lumber River.**

Summarize rationale supporting determination: South Fork Catawba River is 50-100 feet wide. NCWRC maintains a boat ramp adjacent to bridge No. 47 for recreational users.

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is "adjacent": The Lumber River at Bridge No. 47 is classified by NCDWQ as swamp waters (Sw). The wetlands at this area are contiguous and connected directly to the Lumber River.

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

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

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

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

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

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

**(i) General Area Conditions:**

Watershed size: **Pick List**

Drainage area: **Pick List**

Average annual rainfall: inches

Average annual snowfall: inches

**(ii) Physical Characteristics:**

**(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through **Pick List** tributaries before entering TNW.

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

Project waters are **Pick List** river miles from RPW.

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

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

Project waters cross or serve as state boundaries. Explain:

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

Identify flow route to TNW<sup>5</sup>:  
Tributary stream order, if known:

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

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

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

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

Primary tributary substrate composition (check all that apply):

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

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

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) **Flow:**

Tributary provides for: **Pick List**

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

Describe flow regime:

Other information on duration and volume:

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

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

Dye (or other) test performed:

Tributary has (check all that apply):

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

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

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

(iii) **Chemical Characteristics:**

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

Explain:

Identify specific pollutants, if known:

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

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

<sup>7</sup> Ibid.

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

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

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

**(i) Physical Characteristics:**

**(a) General Wetland Characteristics:**

Properties:

Wetland size:      acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

**(b) General Flow Relationship with Non-TNW:**

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

Surface flow is: **Pick List**

Characteristics:

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

Dye (or other) test performed:

**(c) Wetland Adjacency Determination with Non-TNW:**

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

**(d) Proximity (Relationship) to TNW**

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

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

Flow is from: **Pick List**.

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

**(ii) Chemical Characteristics:**

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

Identify specific pollutants, if known:

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

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

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

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

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

For each wetland, specify the following:

Directly abuts? (Y/N)      Size (in acres)      Directly abuts? (Y/N)      Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

### C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

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

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
  - TNWs: 600 linear feet 50-100 width (ft), Or,      acres.
  - Wetlands adjacent to TNWs: 3.00 acres.
2. **RPWs that flow directly or indirectly into TNWs.**
  - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: Hardin Creek and its UTs have NCDWQ stream rating scores greater than 30.
  - Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

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

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

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

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

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

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

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

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
- Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above): .

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

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

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

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

**SECTION IV: DATA SOURCES.**

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

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: .
- USDA Natural Resources Conservation Service Soil Survey. Citation: .
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): .  
or  Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): .

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



Revised: July 2010 (09/04/17)

North Carolina Department of Transportation  
 Highway Stormwater Program  
**STORMWATER MANAGEMENT PLAN**

Version 1.1



**General Project Information**

Project No.:	33614.1.1	Date:	9/16/2010
City/Town:	Wagram	Designer:	BNE
County(ies):	Scotland County	Project Manager:	WHW
River Basin(s):	Lumber	CAMA County?	no
Primary Receiving Water:	Lumber River	TVA County?	no
NCDWQ Surface Water Classification for Primary Receiving Water	Primary: Lumber River Supplemental:	NCDWQ Stream Index:	
Other Stream Classification:		Water Supply IV (WS-IV)	
303(d) Stream?	no	High Quality Waters (HQW)	
State Stormwater Permit Required?	yes	Type(s) of Impairment:	
Could the Project Impact Threatened or Endangered Species?	no	If yes, why?	Project drains to high quality waters
Description:		Buffer Rules:	
Anadromous Fish Present?	no	Existing Site	
Buffer Rules in Effect?	no		

Description of Existing Project Area:	Existing Bridge No. 47 on US 401 over the Lumber River between SR 1401 and SR 1120 in Scotland-Hoke Counties.
Average Daily Traffic (existing):	4600
Existing Cross Section:	Two 12ft lane with normal crown
Surrounding Land Use:	Wetlands and Woods
General Comments:	

<b>Project Description</b>	
Description of Proposed Project:	Replacement of Bridge No. 47 on US 401 over the Lumber River with upstream detour
Average Daily Traffic (proposed):	4600
Proposed Cross-Section:	Two 12ft lanes with normal .02ft crown with 4ft paved shoulders
Interchange Modification:	no
West Terminus:	Wagram
East Terminus:	RaeFord
Project Length (lin. miles/feet):	1900ft
General Comments:	Added Impervious Area (ac.): 0.24ac

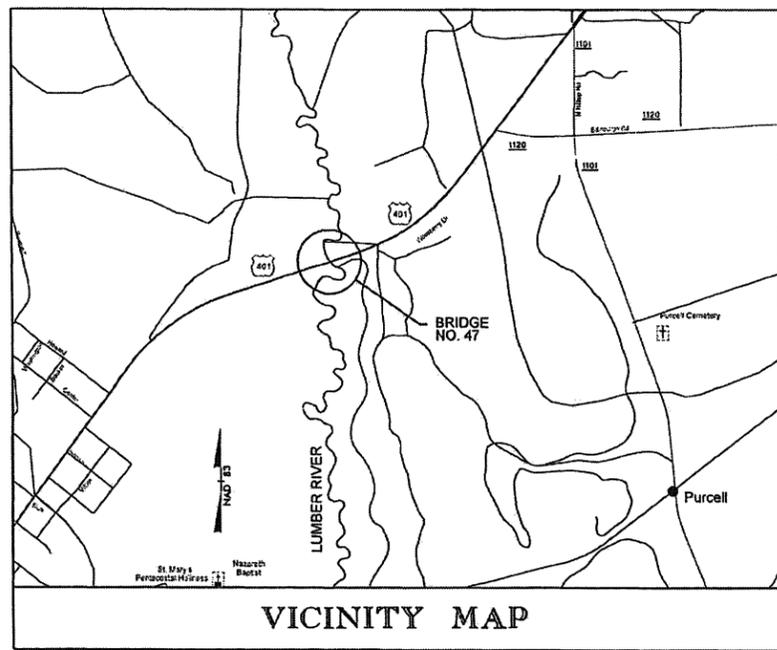


09/08/09

**TIP PROJECT: B-4273**

**CONTRACT:**

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS  
**SCOTLAND & HOKE COUNTIES**

Permit Drawing  
Sheet 1 of 14

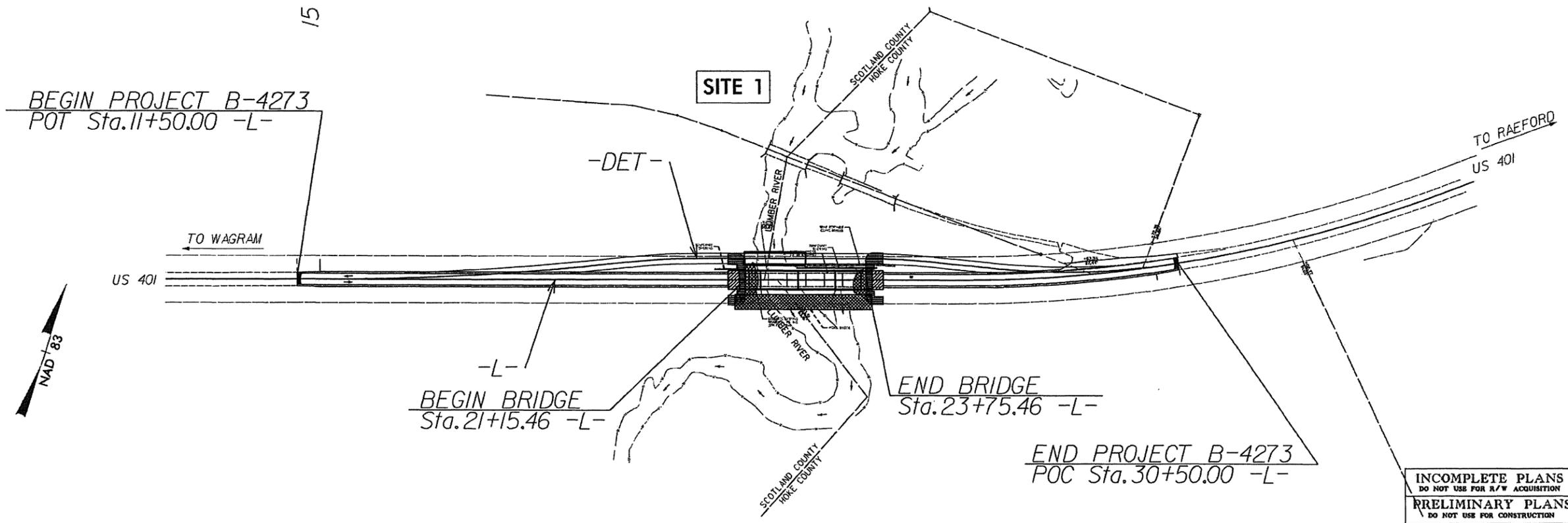
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4273	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33614.11	BRNHS-401(4)	P.E.	



**LOCATION: BRIDGE NO. 47 OVER LUMBER RIVER ON US 401**

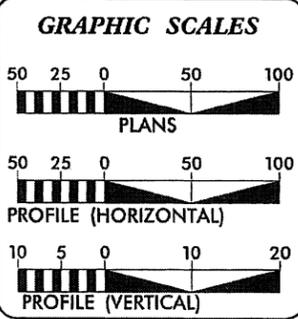
**TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE**

WETLAND/STREAM IMPACTS



NCDOT CONTACT: B. DOUG TAYLOR, P.E. - ROADWAY DESIGN - ENGINEERING COORDINATION

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



**DESIGN DATA**

FUNC. CLASS	= PRINCIPAL ARTERIAL
ADT 2012	= 10,420
ADT 2032	= 17,320
DHV	= 12 %
D	= 55 %
T	= 6 % *
V	= 50 MPH
*(TTST 4 % DUAL 2 %)	

**PROJECT LENGTH**

LENGTH OF ROADWAY	=	.311 MILES
LENGTH OF STRUCTURE	=	.049 MILES
TOTAL LENGTH OF PROJECT	=	.360 MILES

Prepared in the Office of:  
**WILBUR SMITH ASSOCIATES**  
 421 FAYETTEVILLE STREET, RALEIGH NC 27601

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: 9/17/2010

LETTING DATE: 10/18/2011

DAVID L. WILVER  
PROJECT ENGINEER

BENJAMIN J. CRAWFORD  
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

FILE STYLES DATE: 09/08/09

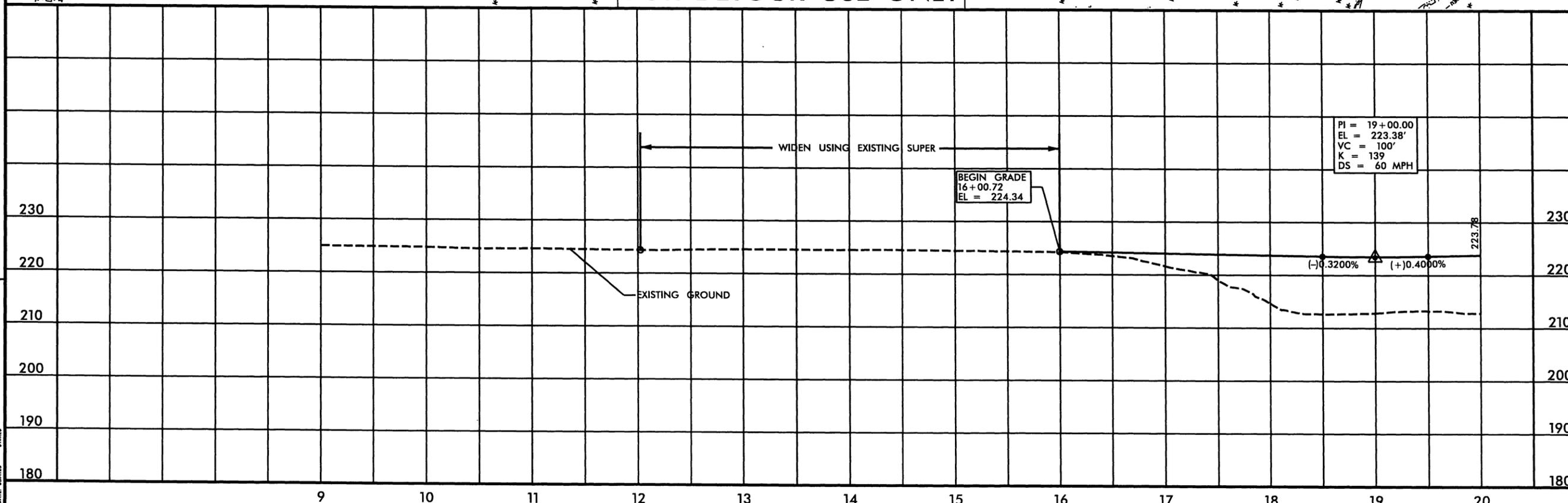
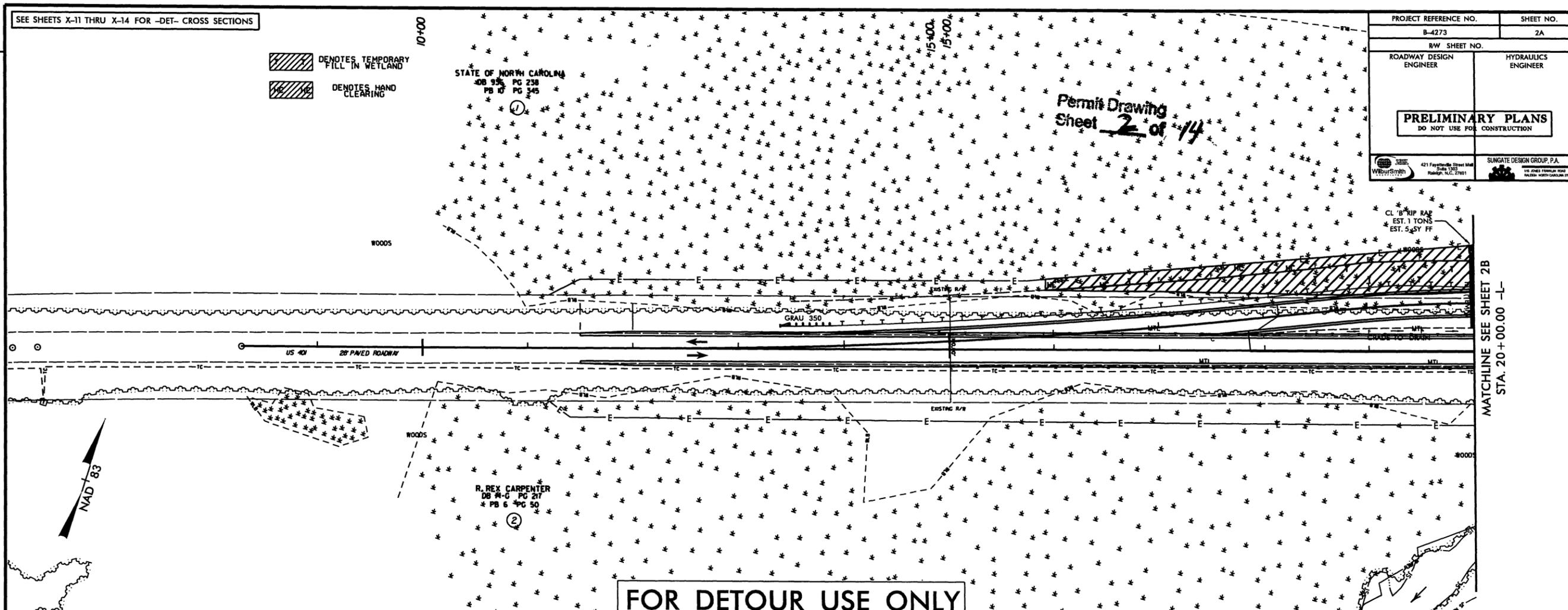
SEE SHEETS X-11 THRU X-14 FOR -DET- CROSS SECTIONS

DIAGONAL HATCHING DENOTES TEMPORARY FILL IN WETLAND  
DOTTED HATCHING DENOTES HAND CLEARING

STATE OF NORTH CAROLINA  
JOB 95 PG 238  
PB 10 PG 345

Permit Drawing  
Sheet 2 of 14

PROJECT REFERENCE NO. B-4273	SHEET NO. 2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
421 Fayetteville Street, Suite 2200 Raleigh, N.C. 27601	SUNGATE DESIGN GROUP, P.A. 100 South Franklin Road Raleigh, N.C. 27601



REVISIONS

FILE: 5716L  
DATE: 02/05/03  
STAGES

MATCHLINE SEE SHEET 2B  
STA. 20+00.00 -L-

SEE SHEETS X-11 THRU X-14 FOR -DET- CROSS SECTIONS

DENOTES TEMPORARY FILL IN WETLAND  
DENOTES HAND CLEARING

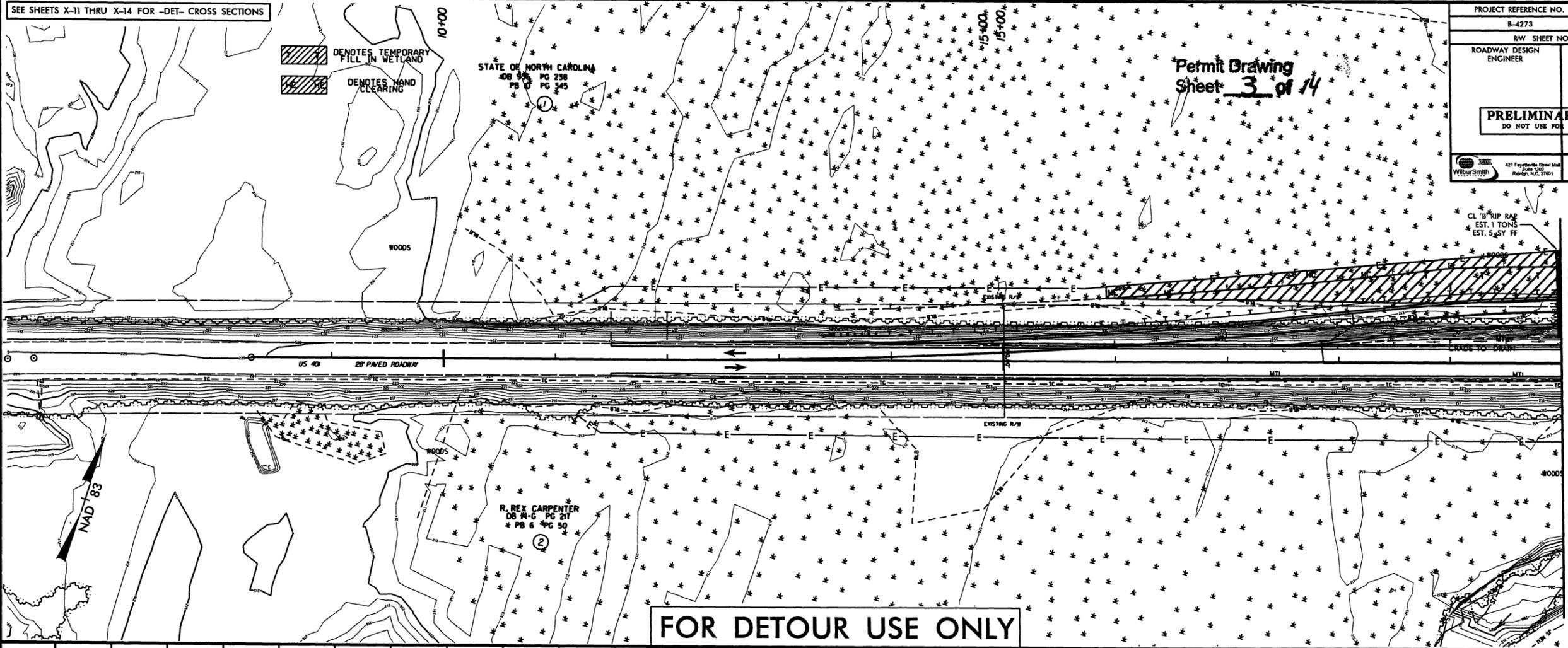
STATE OF NORTH CAROLINA  
DB 38 PC 238  
PB 17 PC 245

Permit Drawing  
Sheet 3 of 14

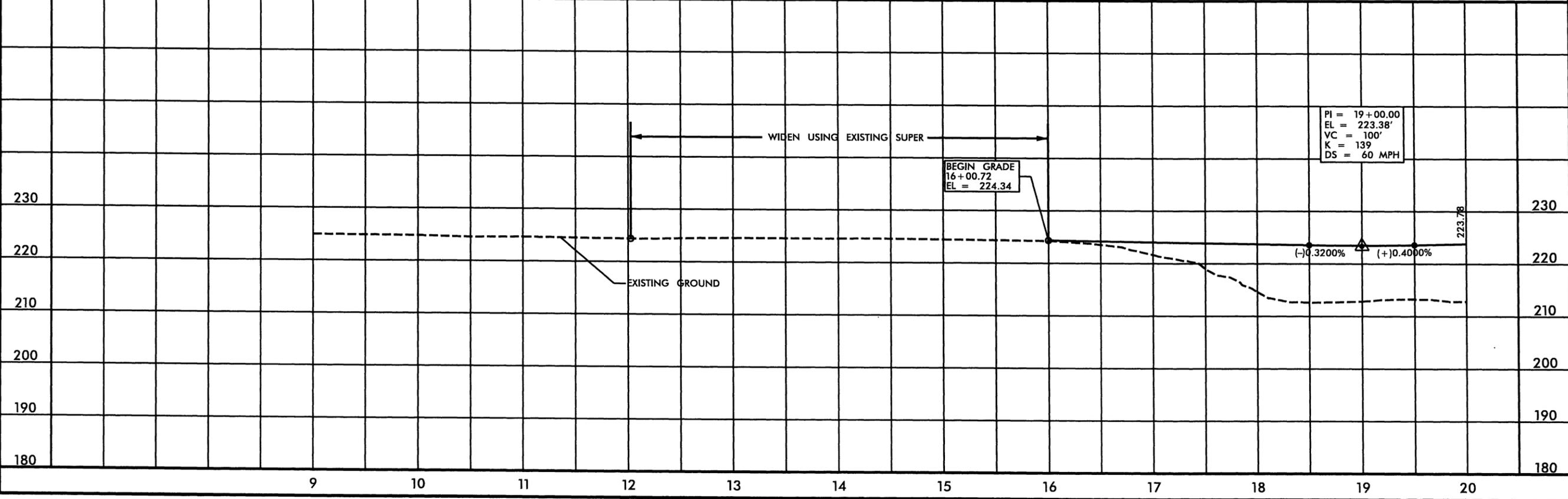
PROJECT REFERENCE NO. B-4273	SHEET NO. 2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
421 Fayetteville Street, Suite 2301 Raleigh, N.C. 27601	SUNGATE DESIGN GROUP, P.A. 110 JONES BRANCH ROAD MILLSBORO, NORTH CAROLINA 28450

CL. 8" RIP RAP  
EST. 1 TONS  
EST. 5.5 SY FF

MATCHLINE SEE SHEET 2B  
STA. 20+00.00 -L-



FOR DETOUR USE ONLY



PI = 19+00.00  
EL = 223.38'  
VC = 100'  
K = 139  
DS = 60 MPH

BEGIN GRADE  
16+00.72  
EL = 224.34

(-)0.3200% (+)0.4000%

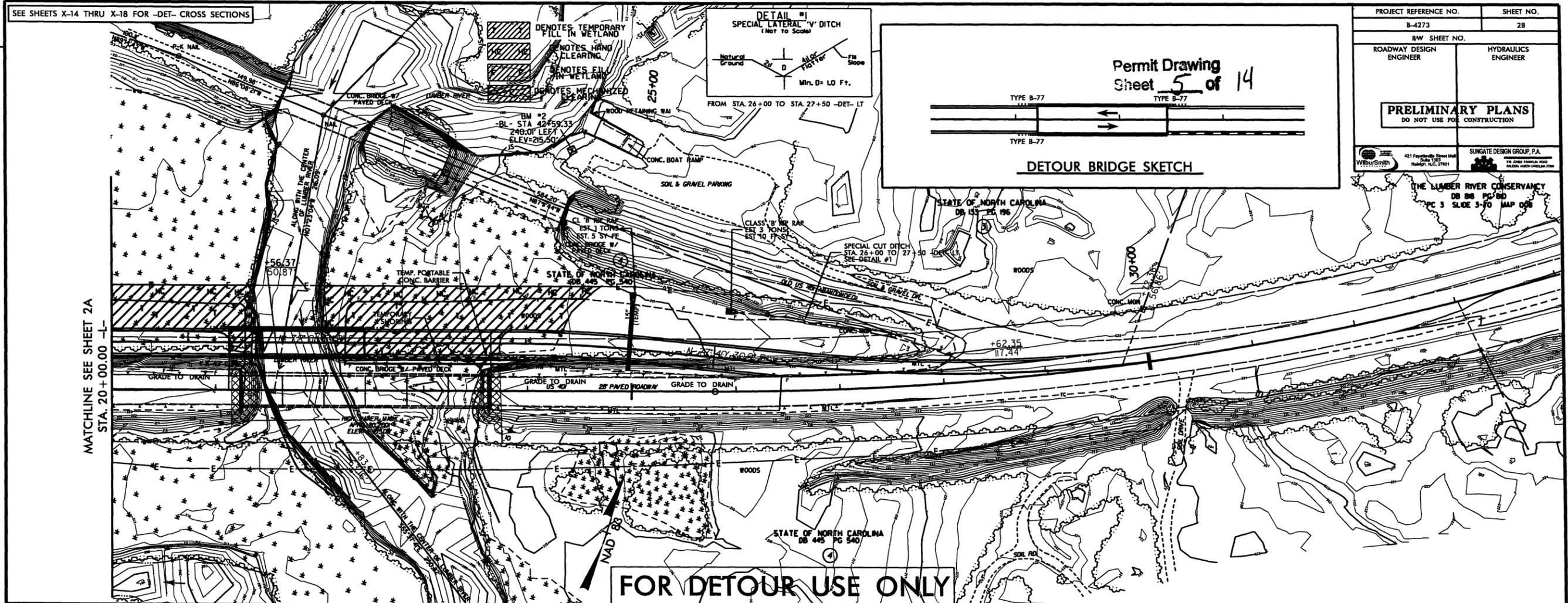
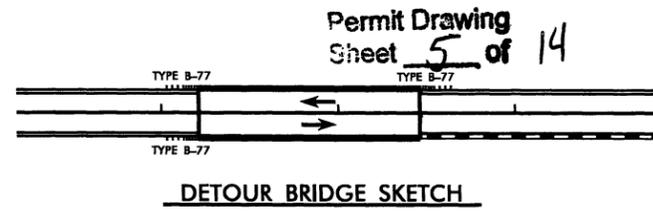
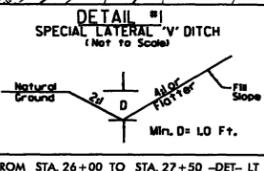
REVISIONS

FILE: 8746F DATE: 04/01/03



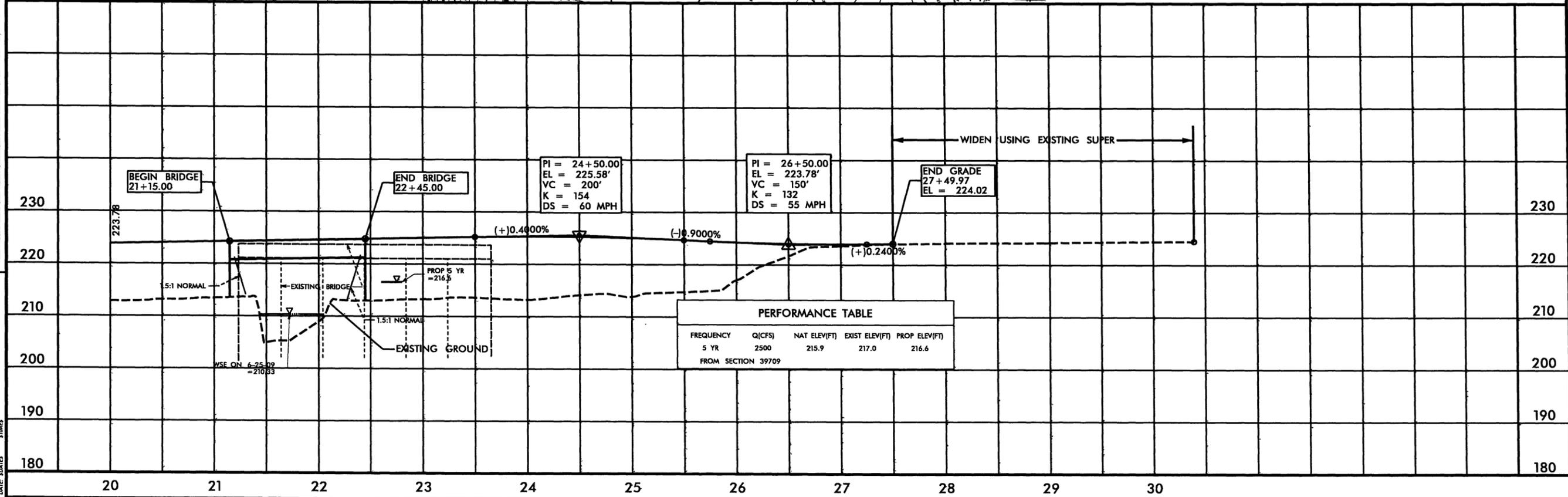
SEE SHEETS X-14 THRU X-18 FOR -DET- CROSS SECTIONS

PROJECT REFERENCE NO. B-4273	SHEET NO. 28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



MATCHLINE SEE SHEET 2A  
STA. 20+00.00 -L-

REVISIONS  
1/17/12 - TEMPORARY CONSTRUCTION EASEMENT REVISED ON PARCEL 3 AND 4 TO INCLUDE DETOUR DITCH



PI = 24 + 50.00  
EL = 225.58'  
VC = 200'  
K = 154  
DS = 60 MPH

PI = 26 + 50.00  
EL = 223.78'  
VC = 150'  
K = 132  
DS = 55 MPH

PERFORMANCE TABLE				
FREQUENCY	Q(CFS)	NAT ELEV(FT)	EXIST ELEV(FT)	PROP ELEV(FT)
5 YR	2500	215.9	217.0	216.6
FROM SECTION 39709				

FILE: 8715  
DATE: 04/12

STATE OF NORTH CAROLINA  
DB 560 PG 1  
PB 9 PG 353  
PB 9 PG 354

WOODS

MTL GATE

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

WOODS

MARJORIE J. JOHNSON  
DB 408 PG 13

SEE SHEET 6 FOR -L- PROFILE  
SEE SHEETS X-2 THRU X-5 FOR CROSS SECTIONS

Permit Drawing  
Sheet 6 of 14

WOODS

PROJECT REFERENCE NO. B-4273		SHEET NO. 4	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
WILSON SMITH & ASSOCIATES, INC. 431 Fayetteville Street, Suite 1000 Raleigh, N.C. 27601		SUNGATE DESIGN GROUP, P.A. 1500 HUNTER ROAD Raleigh, N.C. 27601	



STATE OF NORTH CAROLINA  
JOB 916 PG 238  
PB 10 PG 345

10+00

SITE 1

20+00

US 401

28 PAVED ROADWAY

GRAU 350

N 72° 01' 54" E

R. REX CARPENTER  
DB 41-C PG 217  
PB 6 PG 50

WOODS

WOODS

TEMP. HAUL ROAD

REVISIONS

MATCHLINE SEE SHEET 5  
STA. 20+00.00 -L-

FILE: 87185  
DATE: 04/05/05  
STW:MS

STATE OF NORTH CAROLINA  
DB 560 PG 1  
PB 9 PG 353  
PB 9 PG 354

WOODS

MTL GATE

DIAGONAL HATCHING DENOTES FILL IN WETLAND  
DOTTED PATTERN DENOTES MECHANIZED CLEARING

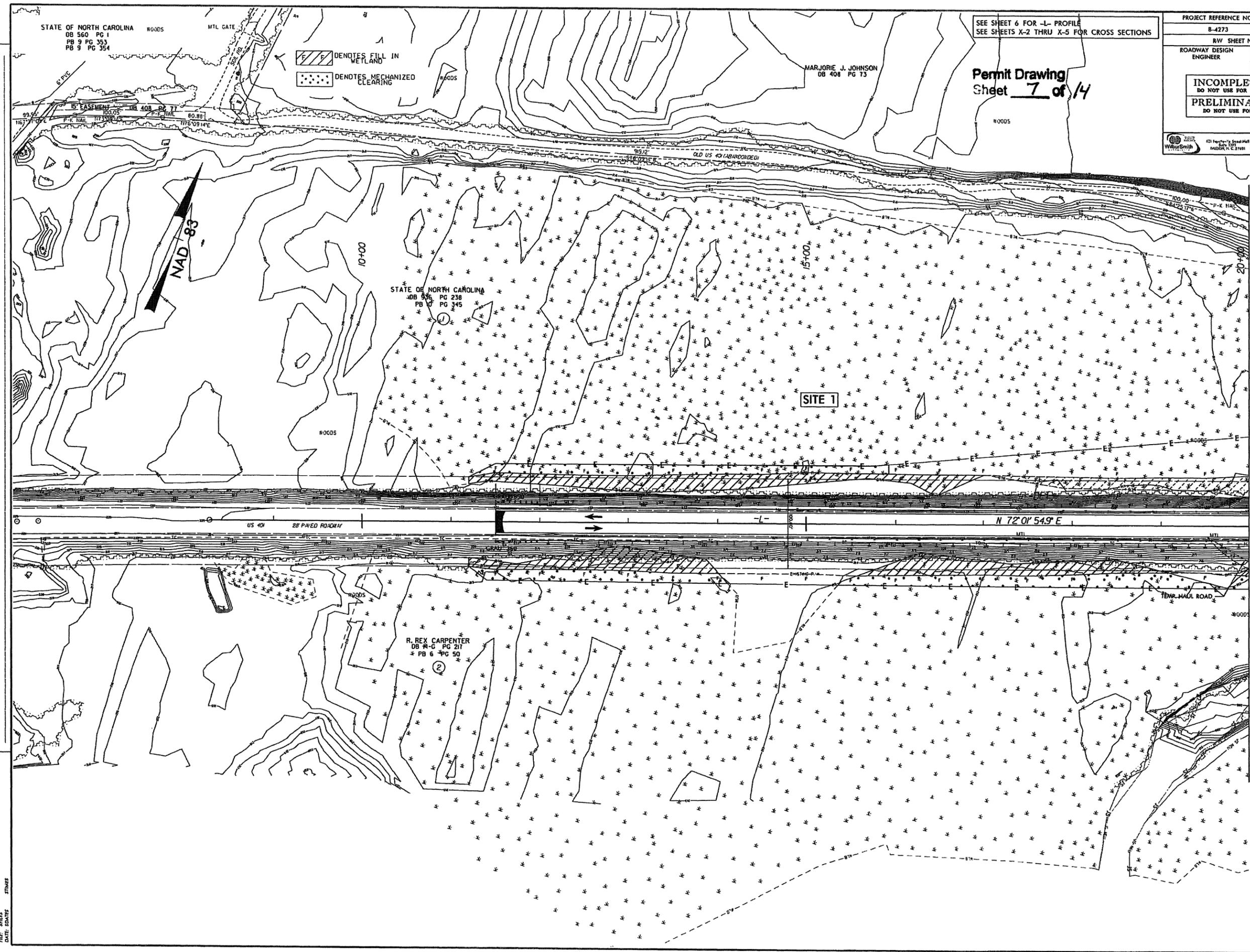
MARJORIE J. JOHNSON  
DB 408 PG 73

SEE SHEET 6 FOR -L- PROFILE  
SEE SHEETS X-2 THRU X-5 FOR CROSS SECTIONS

Permit Drawing  
Sheet 7 of 14

PROJECT REFERENCE NO. B-4273	SHEET NO. 4
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

REVISIONS



MATCHLINE SEE SHEET 5  
STA. 20+00.00 -L-

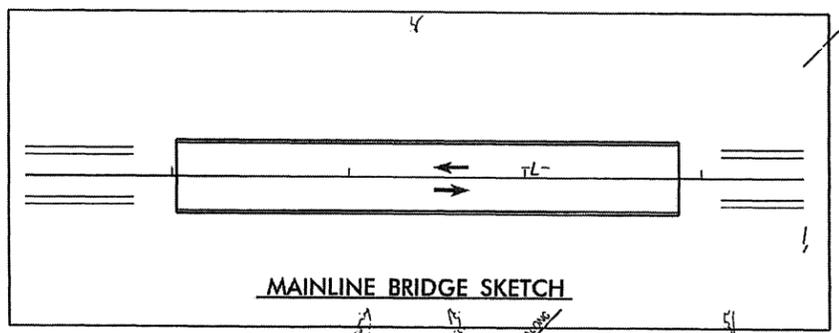
FILE: 87185  
DATE: 04/25/05

SEE SHEET 6 FOR -L- PROFILE  
SEE SHEETS X-5 THRU X-10 FOR CROSS SECTIONS

PROJECT REFERENCE NO. B-4273	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
WSP GROUP 421 Fayetteville Street, Suite 2000 Raleigh, N.C. 27601	SUNGATE DESIGN GROUP, P.A. 175 WEST FURNACE ROAD RALEIGH, N.C. 27603

Permit Drawing  
Sheet 8 of 14

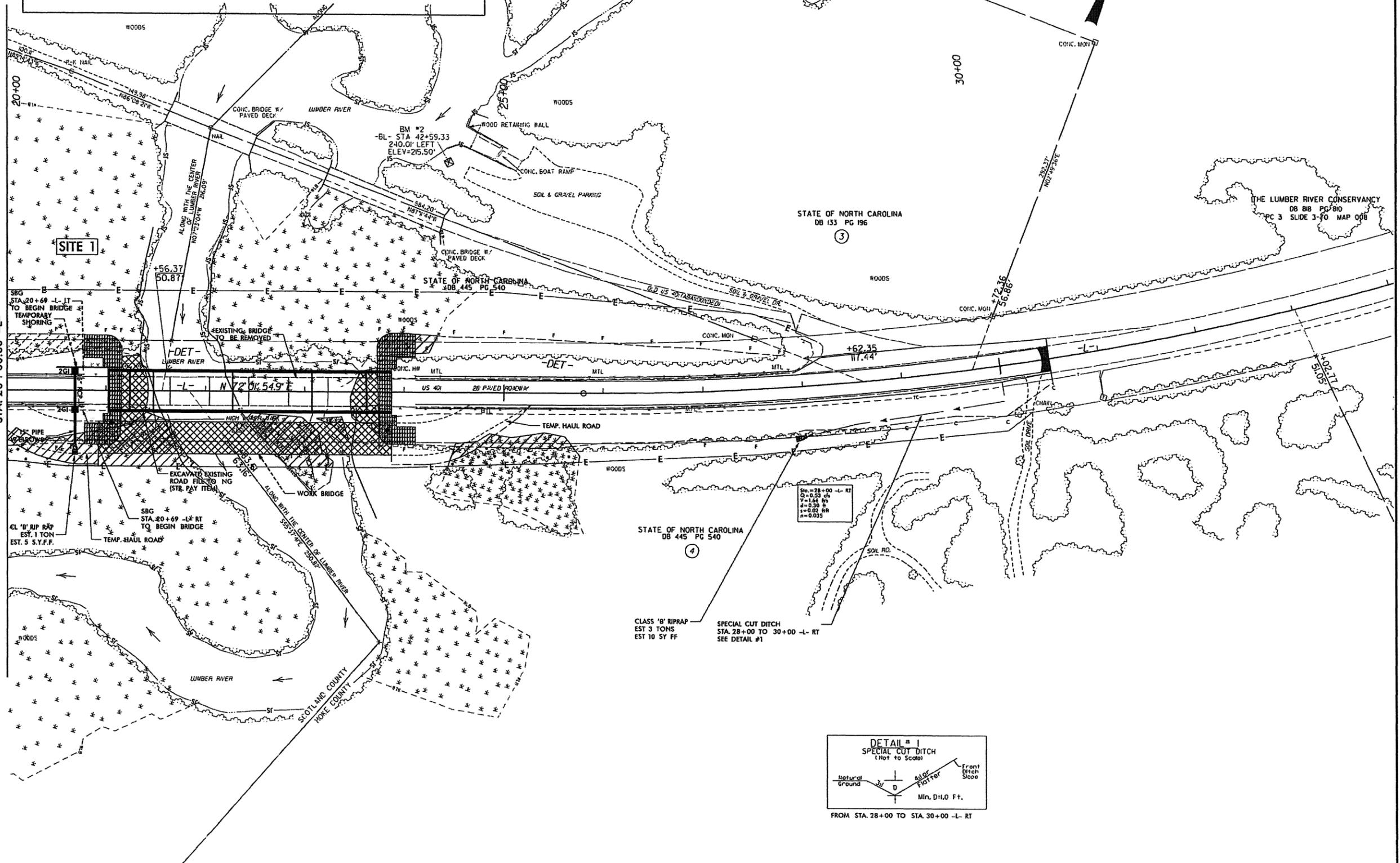
NAD 83



- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES TEMPORARY FILL IN WETLAND

REVISIONS

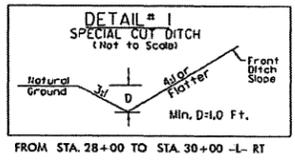
MATCHLINE SEE SHEET 4  
STA. 20+00.00 -L-



Sta. = 28+00 -L- RT  
 G = 2.35 ft  
 V = 1.66 ft  
 A = 0.30 ft  
 S = 0.02 ft  
 n = 0.035

CLASS 'B' RIPRAP  
EST 3 TONS  
EST 10 SY FF

SPECIAL CUT DITCH  
STA. 28+00 TO 30+00 -L- RT  
SEE DETAIL #1



FILE: BR15  
DATE: 04/25/03

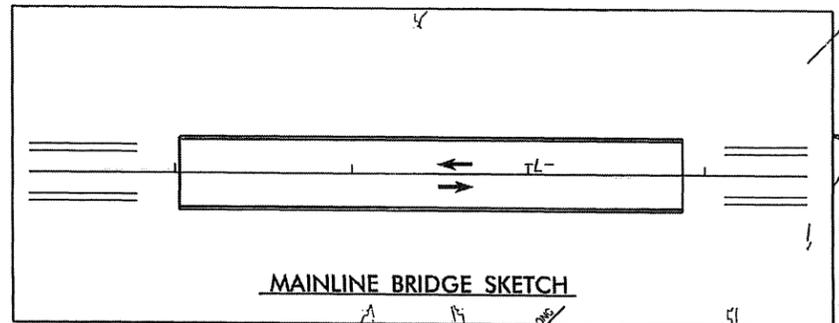
SEE SHEET 6 FOR -L- PROFILE  
SEE SHEETS X-5 THRU X-10 FOR CROSS SECTIONS

PROJECT REFERENCE NO. B-4273	SHEET NO. 5
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

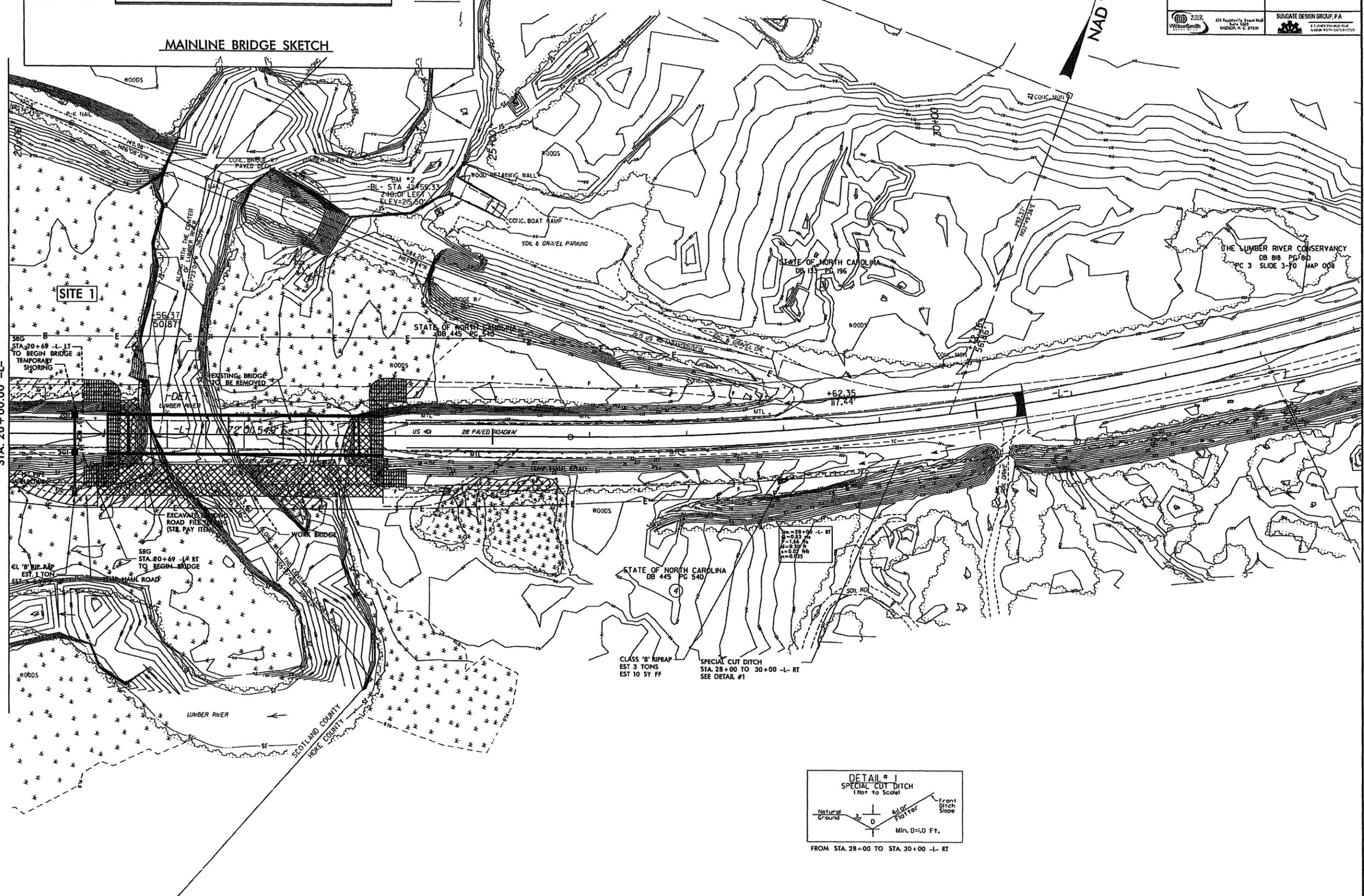
Permit Drawing  
Sheet 9 of 14



- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES TEMPORARY FILL IN WETLAND

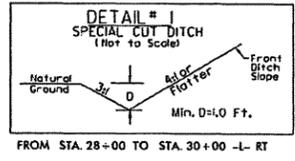


MATCHLINE SEE SHEET 4  
STA. 20+00.00 -L-



CLASS 'B' RIPRAP  
EST 3 TONS  
EST 10 SY FF

SPECIAL CUT DITCH  
STA. 28+00 TO 30+00 -L- RT  
SEE DETAIL #1

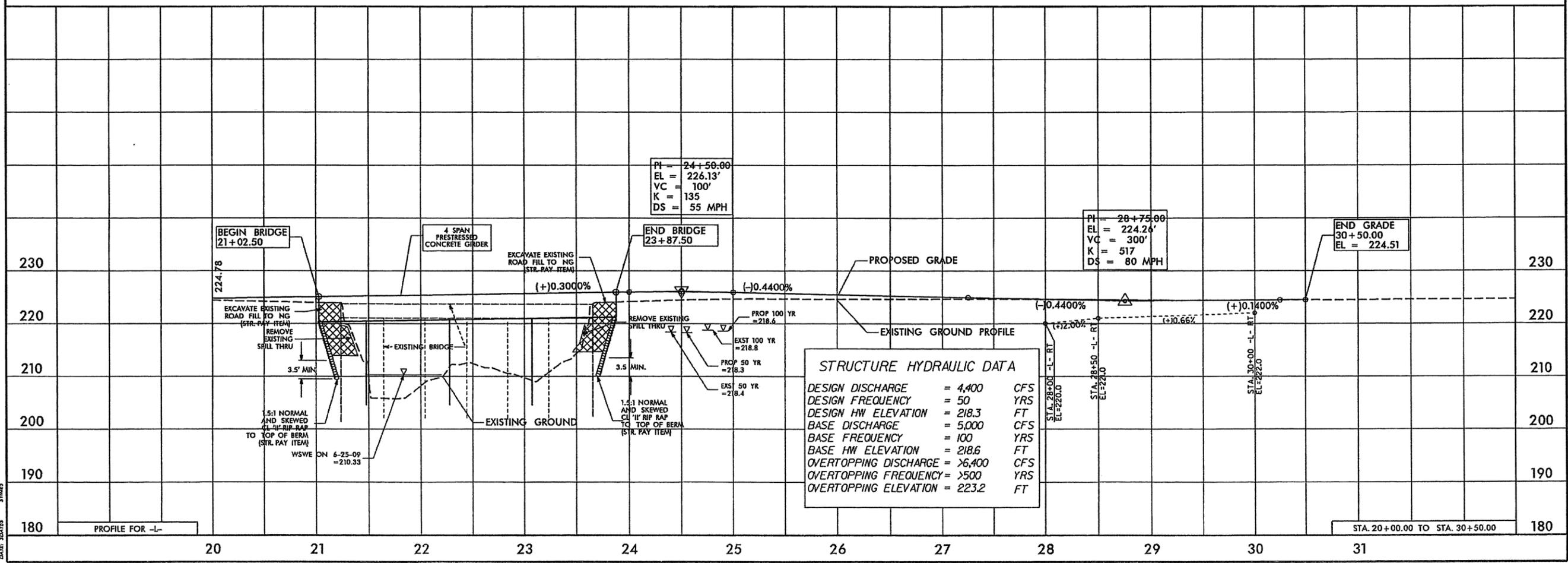
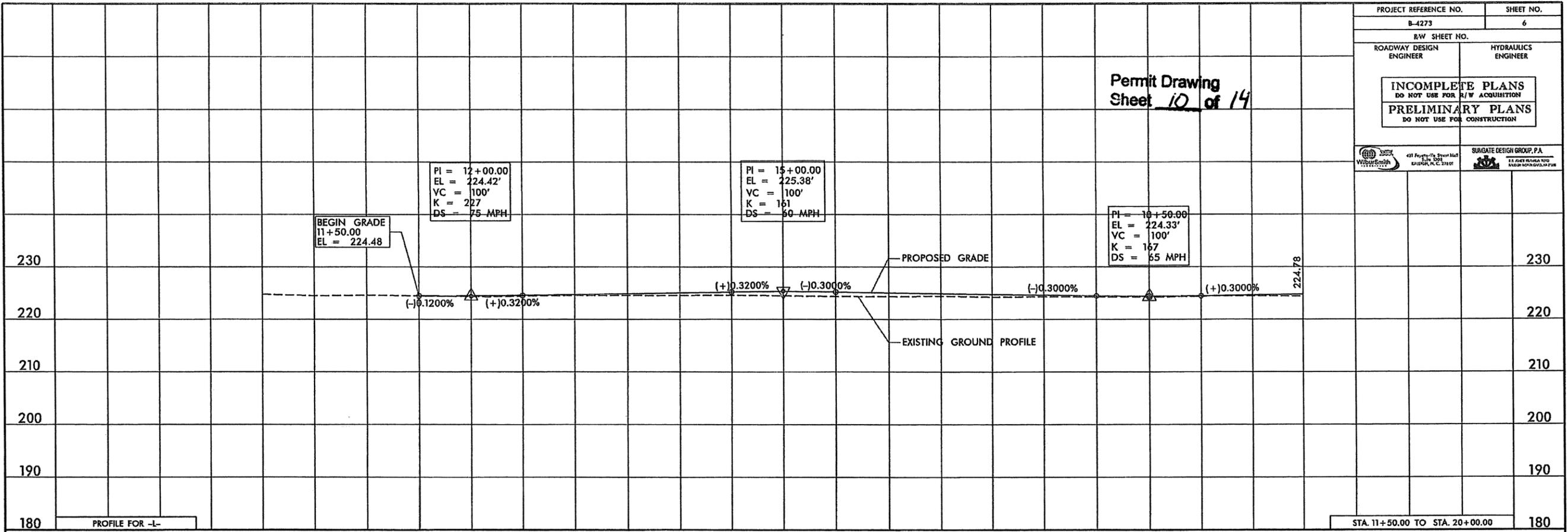


REVISIONS

FILE: STILES  
DATE: 02/01/2015

PROJECT REFERENCE NO. B-4273	SHEET NO. 6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

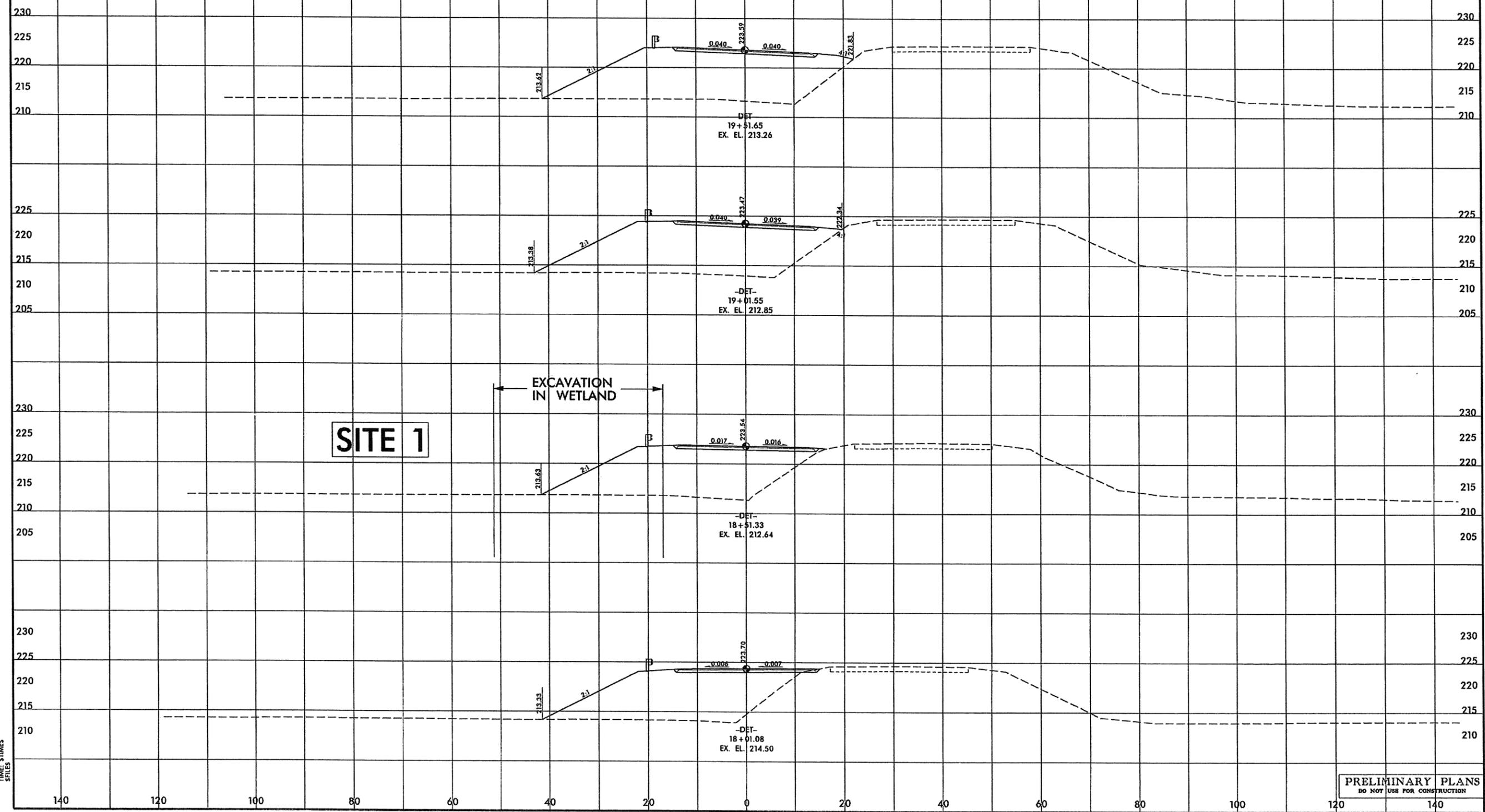
Permit Drawing  
Sheet 10 of 14



DESIGN DISCHARGE	= 4,400	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 218.3	FT
BASE DISCHARGE	= 5,000	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 218.6	FT
OVERTOPPING DISCHARGE	= >6,400	CFS
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING ELEVATION	= 223.2	FT

FILE, STILES  
DATE, 04/25/09

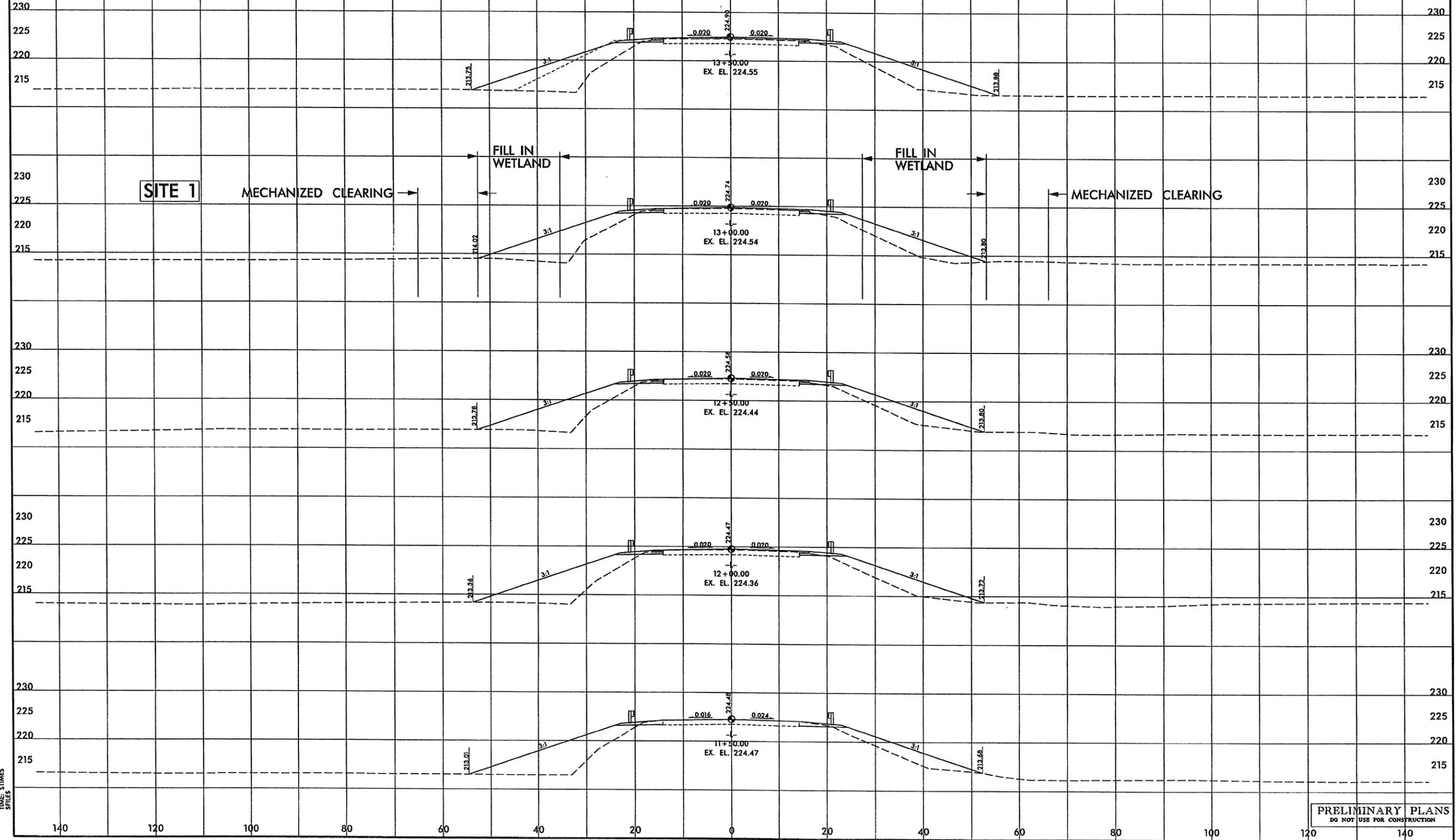
Permit Drawing  
Sheet 11 of 14



DATE: 5/24/05  
TIME: 8:15 AM  
SITES

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

Permit Drawing  
Sheet 12 of 14



DATE: SPACES  
TIME: STIMES  
FILES

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

**PROPERTY OWNERS**  
NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	STATE OF NORTH CAROLINA	N/A
2	R. REX CARPENTER	1010 GREEN ACRES MARSHVILLE, NC 28103
3	STATE OF NORTH CAROLINA	N/A
4	STATE OF NORTH CAROLINA	N/A

WETLAND / STREAM  
IMPACTS

**NCDOT**  
DIVISION OF HIGHWAYS  
SCOTLAND / HOKE COUNTY  
PROJECT: 33614.1.1 (B-4273)  
BRIDGE NO. 47 OVER LUMBER RIVER  
US 401 BETWEEN  
SR 1401 AND SR 1120

**WETLAND PERMIT IMPACT SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS							
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)			
1	11+20 to 25+76 -L-	Proposed Bridge	0.64			0.37					<0.01 *				
1	15+95 to 24+74 -DET-	Detour Bridge		0.50			0.26								
1	20+92 to 23+45 -L- RT	Work Bridge		0.15											
<b>TOTALS:</b>			<b>0.64</b>	<b>0.65</b>	<b>0.00</b>	<b>0.37</b>	<b>0.26</b>	<b>&lt;0.01</b>	<b>&lt;0.01</b>						

\* Impacts: Bent 1 impact = 8.4 sq. ft. Bent 2 impact = 11.2 sq. ft. Bent 3 impact = 11.2 sq. ft. Total impact = 30.8 sq. ft.

**Permit Drawing  
Sheet 14 of 14**

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SCOTLAND/ HOKE COUNTY  
WBS - 33614.1.1 (B-4273)

SHEET 4/23/2012

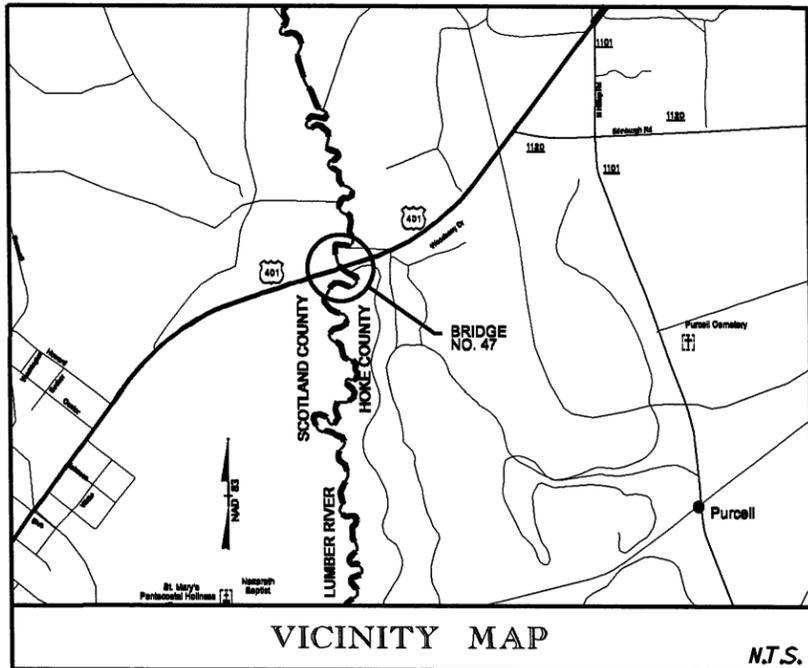
09/05/99

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS  
**SCOTLAND & HOKE  
 COUNTIES**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4273	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33614.1	BRNHS-401(1-0)	P.E.	
33614.2	BRNHS-401(1-0)	ROW & UTIL.	

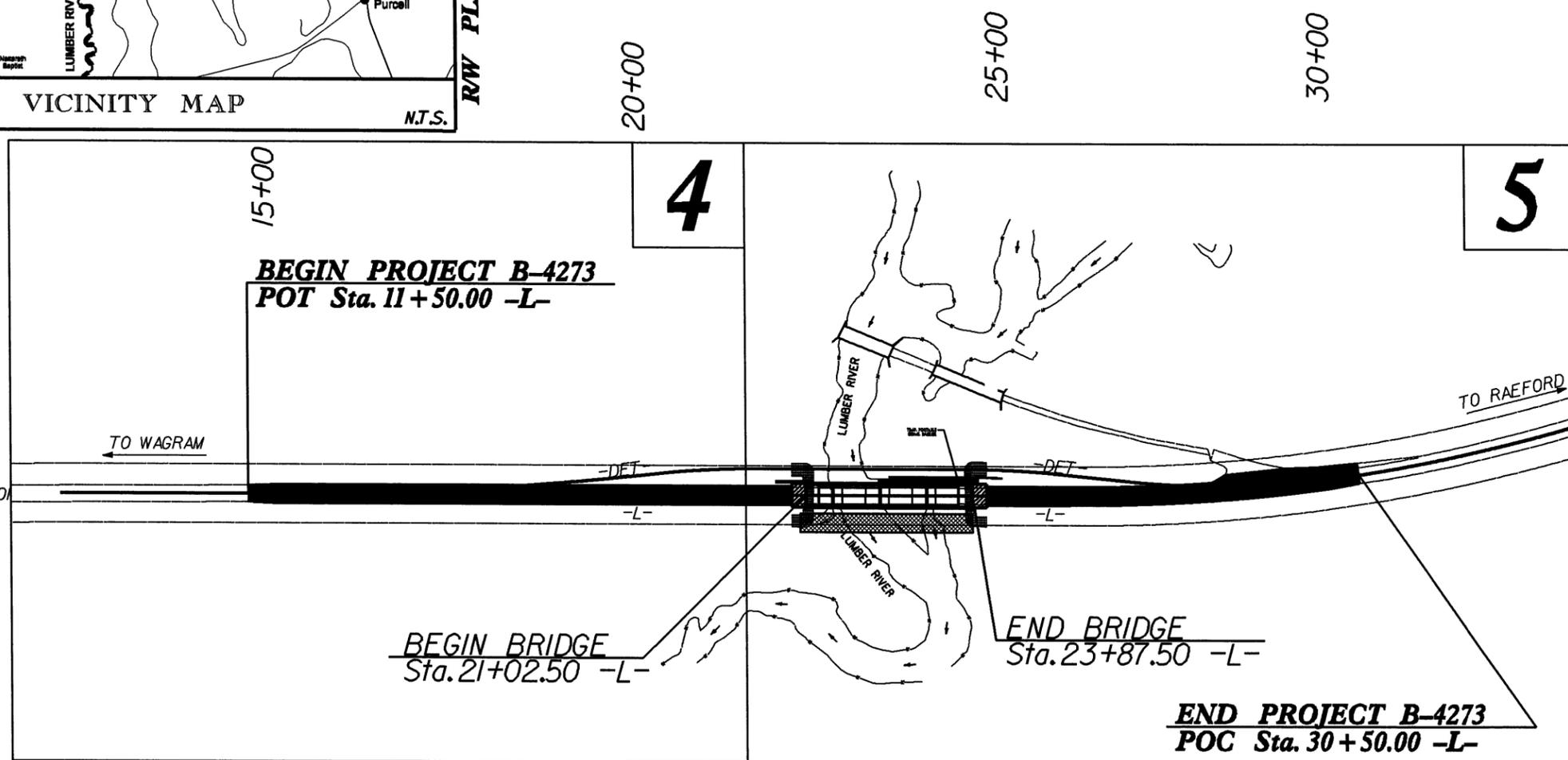
**TIP PROJECT: B-4273**



**R/W PLAN SUBMITTAL**

**LOCATION: BRIDGE NO. 47 OVER LUMBER RIVER ON US 401**

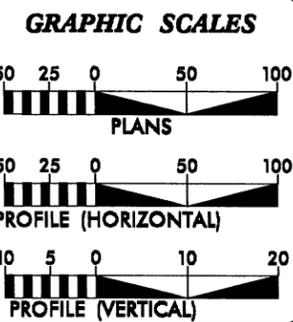
**TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE**



**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

**NCDOT CONTACT: BRENDA L. MOORE, P.E. - ROADWAY DESIGN - ENGINEERING COORDINATION SECTION**

**NOTES: THIS PROJECT IS NOT WITHIN MUNICIPAL BOUNDARIES  
 CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III**



**DESIGN DATA**

FUNC. CLASS	= PRINCIPAL ARTERIAL
ADT 2012	= 5,600
ADT 2032	= 7,500
DHV	= 9%
D	= 55%
T	= 10% *
V	= 50 MPH
REGIONAL TIER	
*(TTST 6% + DUAL 4%)	

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-4273 =	.306 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4273 =	.054 MILES
TOTAL LENGTH OF TIP PROJECT B-4273 =	.360 MILES

Prepared in the Office of:  
**WILBUR SMITH ASSOCIATES**  
 421 FAYETTEVILLE STREET, RALEIGH NC 27601  
 FOR: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
 2012 STANDARD SPECIFICATIONS

<b>RIGHT OF WAY DATE:</b> 1/18/2011	DAVID L. WILVER, P.E. PROJECT ENGINEER
<b>LETTING DATE:</b> 1/20/2012	J. MATTHEW PICKENS, P.E. 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

**CONTRACT:**

FILE: SRES  
DATE: 05/09

PROJECT REFERENCE NO. B-4273	SHEET NO. 1A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
 421 Fayetteville Street, Suite 400 Raleigh, N. C. 27601	 BLUNIGATE DESIGN GROUP, P.A. 100 JOHN F. FRANCE BLVD. RALEIGH, NORTH CAROLINA 27601

INDEX OF SHEETS

SHEET NUMBER SHEET

- 1 TITLE SHEET
- 1-A INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
- 1-B CONVENTIONAL SYMBOLS
- 1-C SURVEY CONTROL SHEET
- 2 PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
- 2-A DETOUR PLAN AND PROFILE
- 2-B DETOUR PLAN AND PROFILE
- 2-C ANCHORAGE FOR FRAMES DETAIL
- 2-D METHOD OF PIPE INSTALLATION
- 2-E METHOD OF PIPE INSTALLATION
- 3 SUMMARY OF QUANTITIES
- 3-A SUMMARY OF DRAINAGE QUANTITIES
- 3-B GUARDRAIL SUMMARY, R/W PARCEL INDEX, EARTHWORK SUMMARY
- 4 THRU 7 PLAN AND PROFILE SHEET
- TCP1 THRU TCP7 TRAFFIC CONTROL PLANS
- PM1 THRU PM7 PAVEMENT MARKING PLAN
- EC1 THRU EC7 EROSION CONTROL PLANS
- UC1 THRU UC7 UTILITY CONSTRUCTION PLANS
- X-1 THRU X-18 CROSS-SECTIONS
- S1 THRU S7 STRUCTURE PLANS

GENERAL NOTES:

2012 SPECIFICATIONS  
EFFECTIVE: 01-01-12

GRADE LINE:  
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January 1, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Super-elevation - Two Lane Pavement
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Super-elevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
816.01	Concrete Pads - for Shoulder Drain Installation
816.02	Aggregate Shoulder Drain
816.04	Markers for Drainage Structure and Concrete Pad
840.00	Concrete Base Pad for Drainage Structures
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.02	Driveway Turnout - Radius Type
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

EFF. 01-01-12

REVISIONS

FILE: 87125  
DATE: 02/01/12

Note: Not to Scale

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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. 8-4273  
SHEET NO. 1B

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

# 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	-----
Proposed Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----

### BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○
Small Mine	⊗
Foundation	□
Area Outline	□
Cemetery	⊕
Building	□
School	⊕
Church	⊕
Dam	▬

### HYDROLOGY:

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

### RAILROADS:

Standard Gauge	-----
RR Signal Milepost	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	XXXX

### 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 Call 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	-----
Above Ground Sanitary Sewer	A/G Sanitary Sewer
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

### MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	-----
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.

REVISIONS

FILE FILES DATE STATES

6/2/99

# SURVEY CONTROL SHEET B-4273

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BL-1	BL-1	417171.8948	189286.4009	228.81	OUTSIDE PROJECT LIMITS	
BL-2	BL-2	417729.7834	1892015.6615	228.57	OUTSIDE PROJECT LIMITS	
BL-3	BL-3	418117.7982	1892994.9468	226.21	OUTSIDE PROJECT LIMITS	
BL-4	BL-4	418380.9211	1894129.8303	223.38	8'-M-22	18.22 RT
BL-5	BL-5	418749.7210	1895261.1939	223.41	20'-RM-15	16.52 RT
BL-6	BL-6	419050.4383	1896139.4361	223.67	28'-13-15	32.91 RT
BL-7	BL-7	419274.1639	1896876.8106	226.18	OUTSIDE PROJECT LIMITS	

BM1	ELEVATION = 226.18
N 417678	E 1892676
L STATION 8+57.77	
S 63°18'40" W DIST. 1547.46'	
RR SPIKE IN BASE OF 12 INCH PINE TREE	
BM2	ELEVATION = 215.08
N 419094	E 1895520
L STATION 24+45.00 20' LEFT	
RR SPIKE IN BASE OF 10 INCH OLM TREE	
BM3	ELEVATION = 221.31
N 419489	E 1898771
L STATION 37+13.95	
S 48°59'38" E DIST. 76.66'	
RR SPIKE IN BASE OF 20 INCH OLM TREE	

-L- STA 11+50.00 BEGIN STATE PROJECT B-4273  
 LOCALIZED PROJECT COORDINATES  
 N = 418476.0232  
 E = 1894363.6999

-L- STA 30+50.00 END STATE PROJECT B-4273  
 LOCALIZED PROJECT COORDINATES  
 N = 419096.6623  
 E = 1896157.8137

NCDOT BASELINE STATION BL-1  
 LOCALIZED PROJECT COORDINATES  
 N = 417171.0348  
 E = 1892346.4559

NCDOT BASELINE STATION BL-5  
 LOCALIZED PROJECT COORDINATES  
 N = 418749.7210  
 E = 1895261.1939

NCDOT BASELINE STATION BL-2  
 LOCALIZED PROJECT COORDINATES  
 N = 417729.7834  
 E = 1892815.6615

NCDOT BASELINE STATION BL-3  
 LOCALIZED PROJECT COORDINATES  
 N = 418117.7982  
 E = 1893384.9460

NCDOT BASELINE STATION BL-4  
 LOCALIZED PROJECT COORDINATES  
 N = 418380.9211  
 E = 1894129.8303

NCDOT BASELINE STATION BL-6  
 LOCALIZED PROJECT COORDINATES  
 N = 419050.4383  
 E = 1896139.4361

NCDOT BASELINE STATION BL-7  
 LOCALIZED PROJECT COORDINATES  
 N = 419274.1639  
 E = 1896876.8106

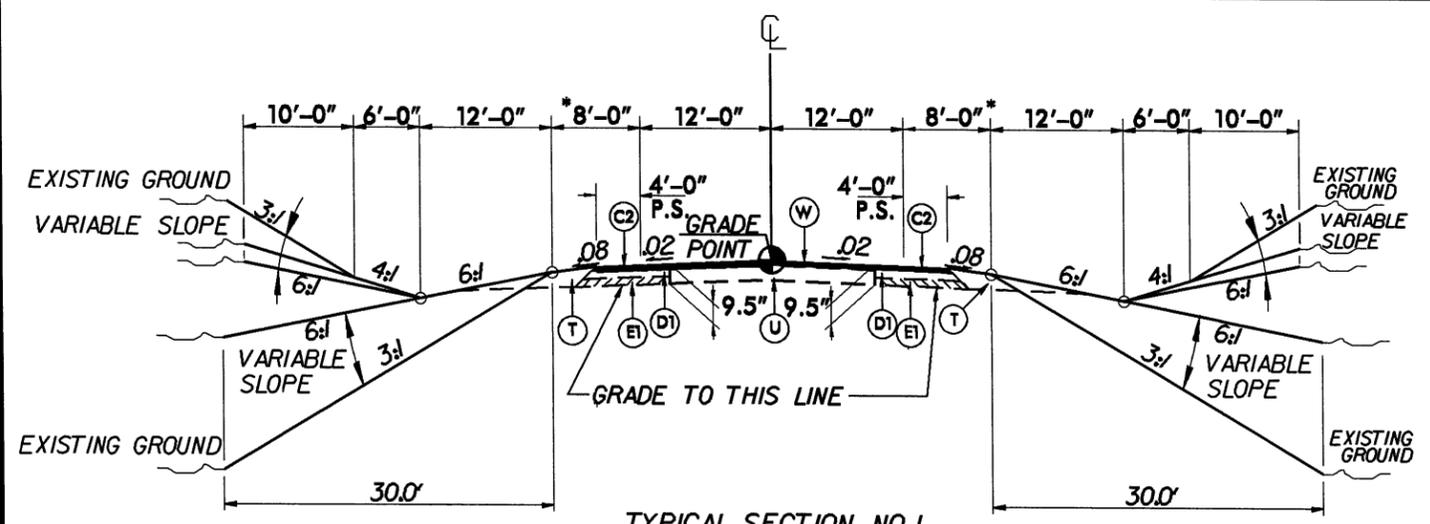
**DATUM DESCRIPTION**  
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCOS FOR MONUMENT "BOATING" WITH NAD 83/96 STATE PLANE GRID COORDINATES OF NORTHING: 419050.6383(±±) EASTING: 1896139.4361(±±) ELEVATION: 223.6701(±±)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998853  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BOATING" TO -L- STATION 11+50.00 IS S 72° 04' 07.7" W 1866.393'  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 29

**NOTES:**  
 1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY REQUESTING PROJECT CONTROL DATA AT: [HTTP://WWW.NCDOT.GOV/TRANSPORTATION/LOCATION/PROJECTS](http://www.ncdot.gov/transportation/transportation/location/projects)  
 THE FILES TO BE FOUND ARE AS FOLLOWS:  
 B4273A\_CONTROL\_SHEET.DWG  
 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.  
 2. INDICATES GEOMETRIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.  
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.  
 NETWORK ESTABLISHED FROM EXISTING BARN MONUMENTATION.  
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

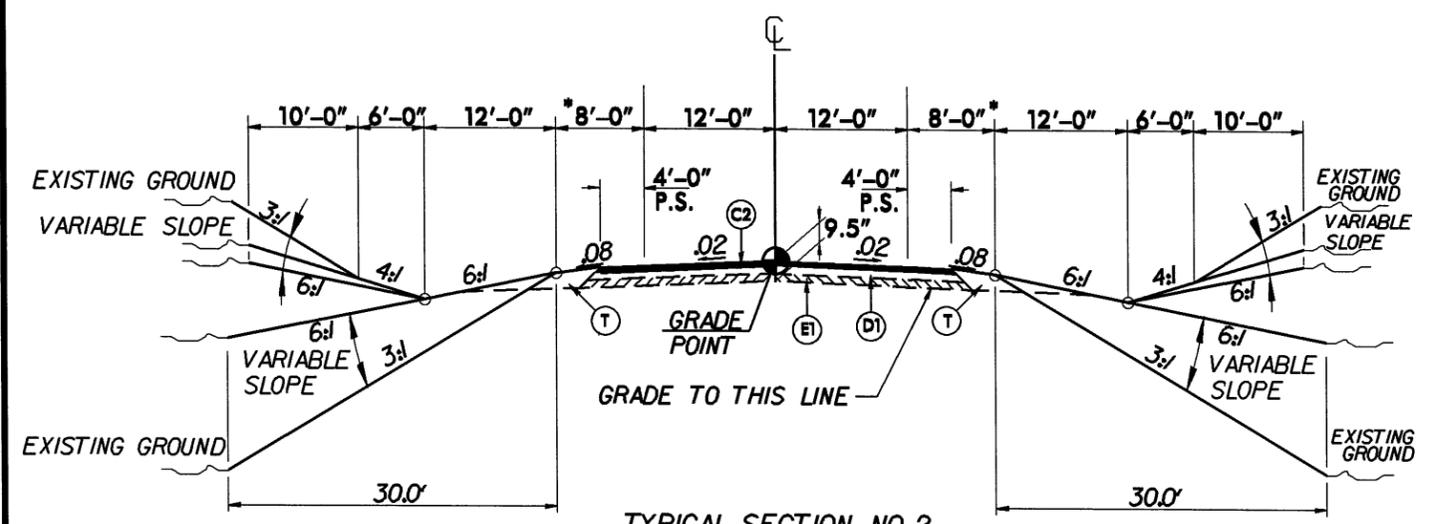
NOTE: DRAWING NOT TO SCALE

REVISIONS

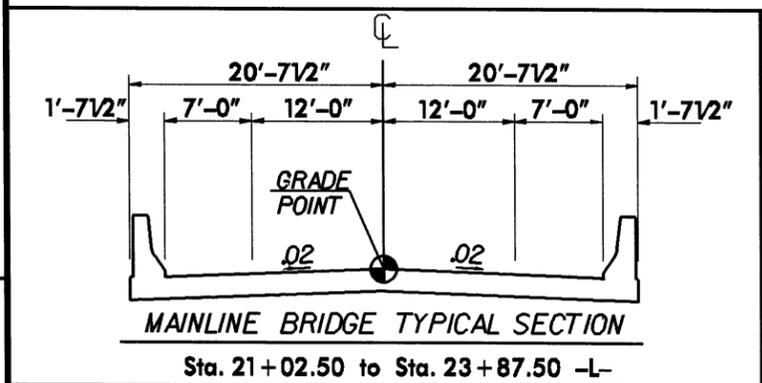
-MAB-2012 10:36 P-coj \TIP-Proj-jects-B\B4273\Roadway\Proj\B4273\_RDY\_PSH01C.dgn



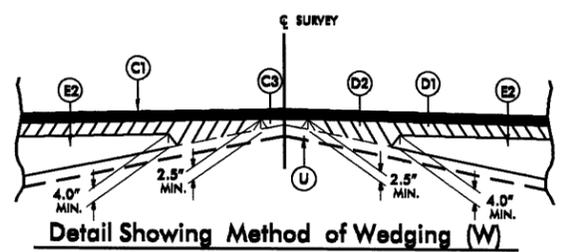
**TYPICAL SECTION NO.1**  
 Sta. 11+50.00 to Sta. 17+58.85 -L-  
 Sta. 26+34.04 to Sta. 31+00.00 -L-



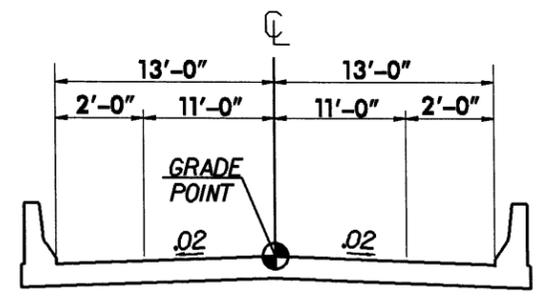
**TYPICAL SECTION NO.2**  
 Sta. 17+58.85 to Sta. 21+02.50 (BEGIN BRIDGE) -L-  
 Sta. 23+87.50 (END BRIDGE) to Sta. 26+34.04 -L-



**MAINLINE BRIDGE TYPICAL SECTION**  
 Sta. 21+02.50 to Sta. 23+87.50 -L-



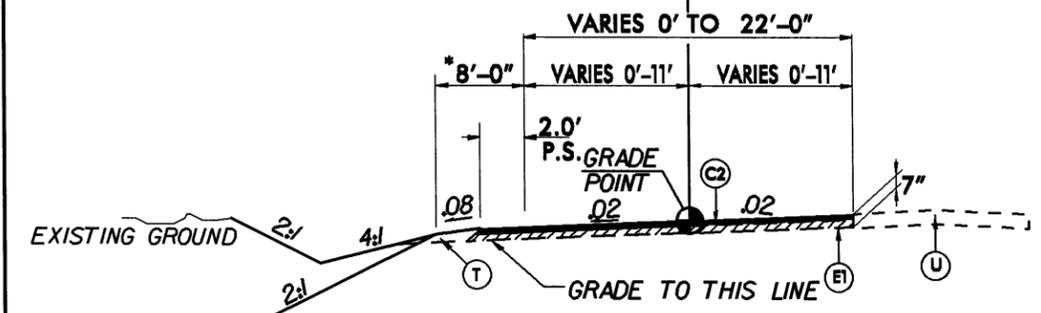
**Detail Showing Method of Wedging (W)**



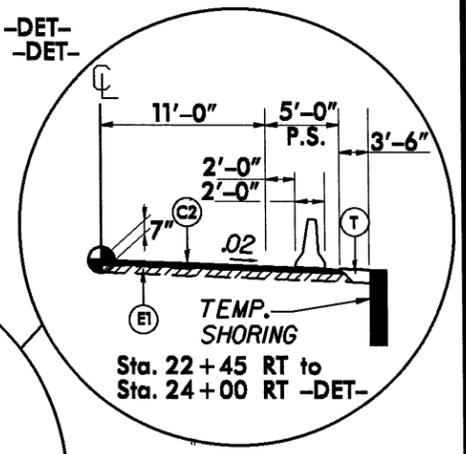
**DETOUR BRIDGE TYPICAL SECTION**  
 Sta. 21+15.00 to Sta. 22+45.00 -DET-

\* 11' W/GUARDRAIL

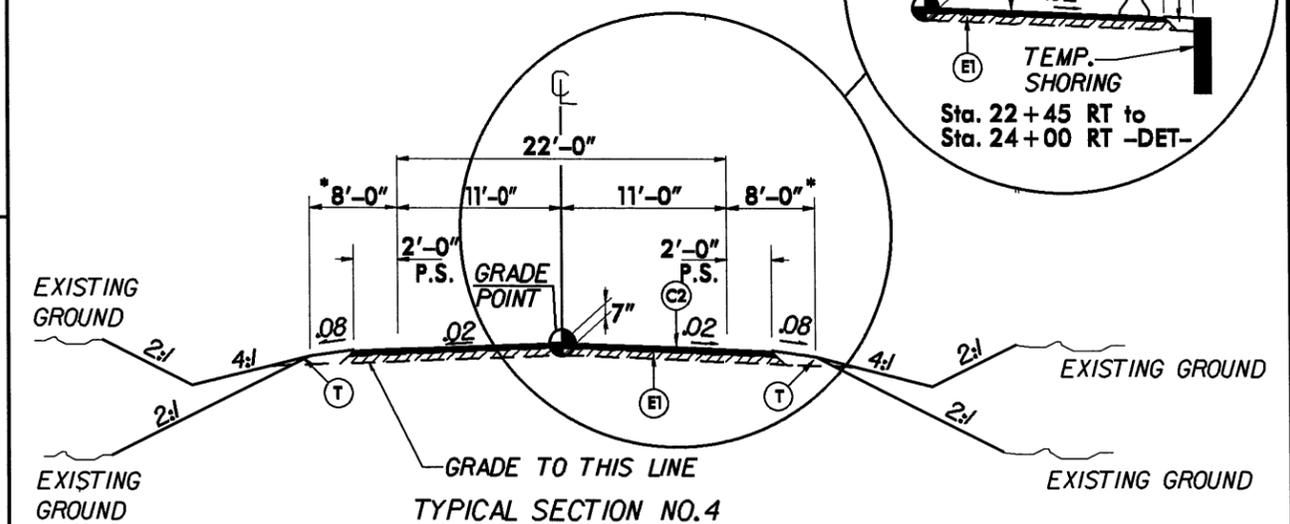
- NOTES**
1. ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
  2. SHOULDER ROLLOVER NOT TO EXCEED 0.06 (TYP)



**TYPICAL SECTION NO.3**  
 Sta. 12+02.46 to Sta. 16+00.72 -DET-  
 Sta. 27+49.97 to Sta. 30+39.39 -DET-



**TEMP. SHORING**  
 Sta. 22+45 RT to Sta. 24+00 RT -DET-



**TYPICAL SECTION NO.4**  
 Sta. 16+00.72 to Sta. 21+15.00 (BEGIN BRIDGE) -DET-  
 Sta. 22+45.00 (END BRIDGE) to Sta. 27+49.97 -DET-

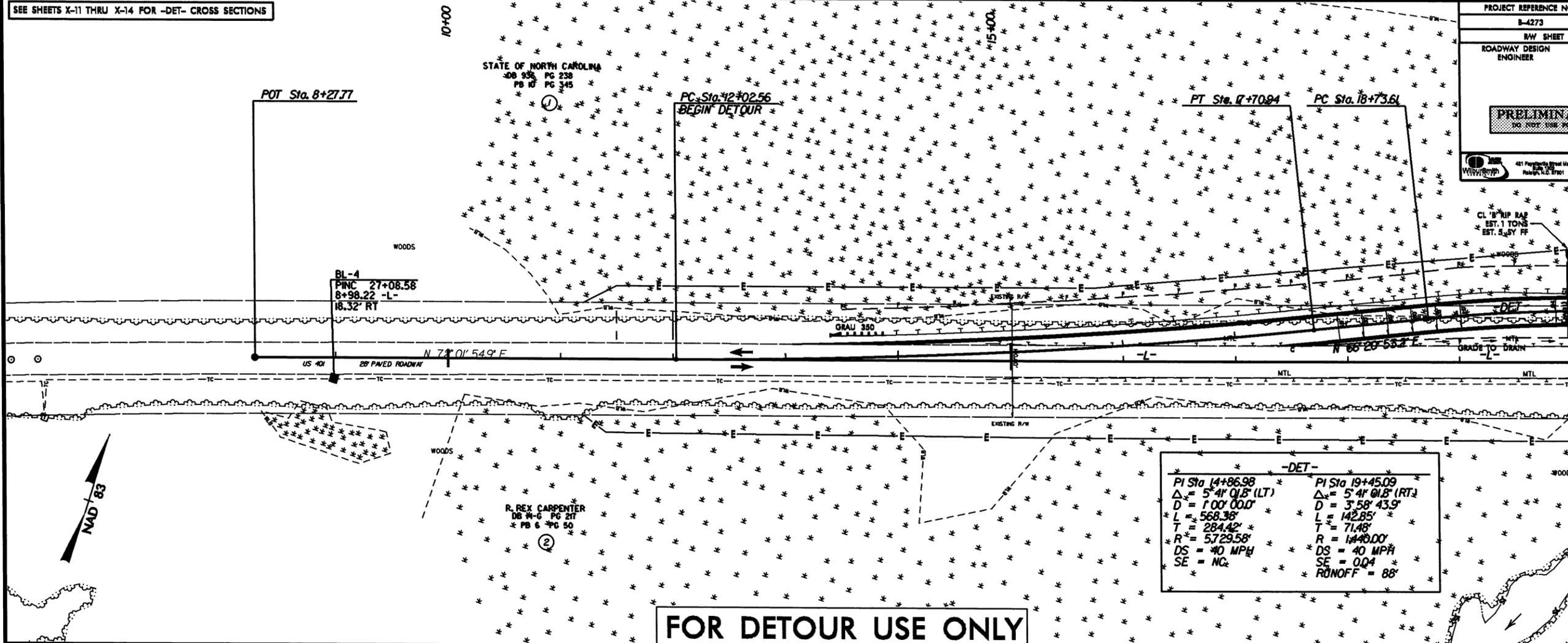
**PAVEMENT SCHEDULE**

ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION
(C1)	PROP. APPROX. 1.5 IN. ASPHALT SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS/SY	(D1)	PROP. APPROX. 2.5 IN. ASPHALT INT. COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS/SY	(E2)	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS/SY/IN. IN LAYERS NOT LESS THAN 3 IN. NOR GREATER THAN 5.5 IN.	(W)	WEDGING SEE DETAIL ON THIS SHEET
(C2)	PROP. APPROX. 3 IN. ASPHALT SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS/SY IN EACH OF TWO LAYERS	(D2)	PROP. VAR. DEPTH ASPHALT CONC. INT. COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS/SY/IN. IN LAYERS NOT LESS THAN 2.5 IN. NOR GREATER THAN 4 IN.	(T)	EARTH MATERIAL		
(C3)	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS/SY/IN. IN LAYERS NOT LESS THAN 1.5 IN. NOR GREATER THAN 2 IN.	(E1)	PROP. APPROX. 4.0 IN. ASPHALT BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS/SY	(U)	EXISTING PAVEMENT		

FILE: S95S DATE: 08/05

SEE SHEETS X-11 THRU X-14 FOR -DET- CROSS SECTIONS

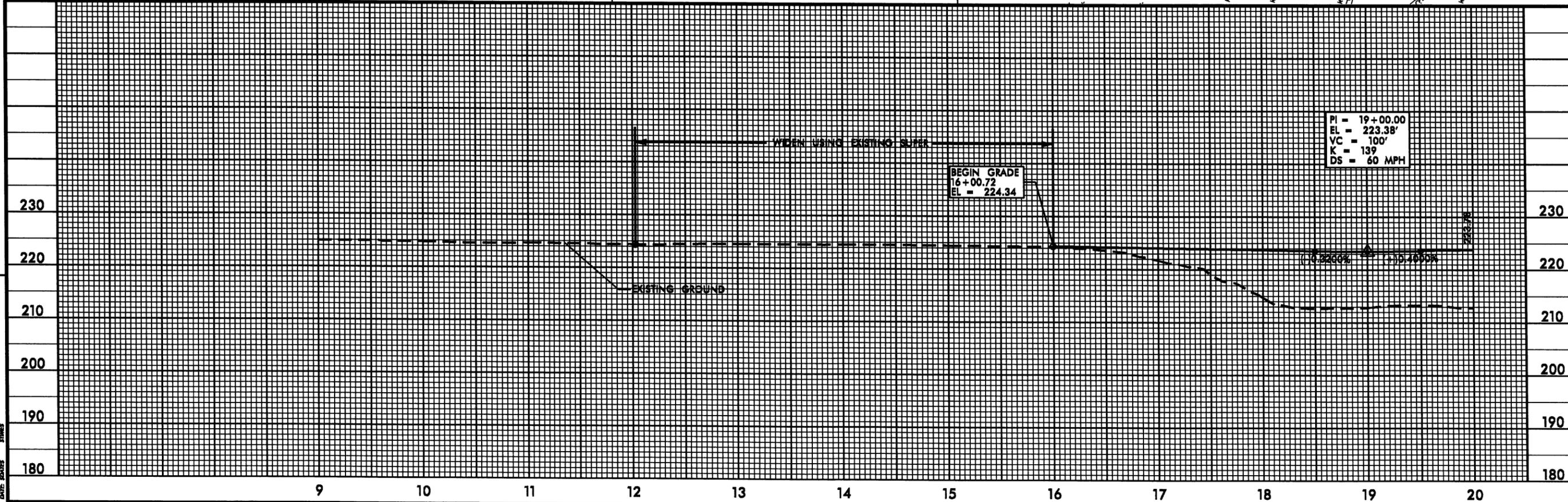
PROJECT REFERENCE NO. B-4273	SHEET NO. 2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> NO. 2007 USE FOR CONSTRUCTION	
421 Fayetteville Street Mail Raleigh, N.C. 27601	SUNDATE DESIGN GROUP P.A. 110 SOUTH PARKWAY ROAD RALEIGH, N.C. 27601



-DET-	
PI Sta 14+86.98	PI Sta 19+45.09
$\Delta = 5' 41'' 01.8''$ (LT)	$\Delta = 5' 41'' 01.8''$ (RT)
D = 1'00' 00.0"	D = 3'58' 43.9"
L = 568.38'	L = 142.85'
T = 284.42'	T = 71.48'
R = 5729.58'	R = 1440.00'
DS = 40 MPH	DS = 40 MPH
SE = NC	SE = 0.04
	RUNOFF = 88'

**FOR DETOUR USE ONLY**

MATCHLINE SEE SHEET 2B  
STA. 20+00.00 -L-



PI = 19+00.00
EL = 223.38'
VC = 100'
K = 139
DS = 60 MPH

REVISIONS

FILE: 8785  
DATE: 04/05  
STW:MS



COMPUTED BY: MAD DATE: 03/11  
CHECKED BY: DLW DATE: 03/11

PROJECT REFERENCE NO.	SHEET NO.
B-4273	3
RW SHEET NO.	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**SUMMARY OF QUANTITIES**

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

REVISIONS

FILE: 8745  
DATE: 03/11  
PAGE: 3





STATE OF NORTH CAROLINA  
DB 560 PG 1  
PB 9 PG 353  
PB 9 PG 354

WOODS

MTL GATE

WOODS

MARJORIE J. JOHNSON  
DB 406 PG 13

SEE SHEET 6 FOR -L- PROFILE  
SEE SHEETS X-2 THRU X-5 FOR CROSS SECTIONS

PROJECT REFERENCE NO. B-4273	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
	RUNGATE DESIGN GROUP, P.A. 451 Poplarwood Road Raleigh, N.C. 27601



POT Sta. B+27.71

**BEGIN TIP PROJECT B-4273**  
Sta. 11+50.00 -L-

BL-4  
PINC 27+08.58  
8+98.22 -L-  
18.32' RT

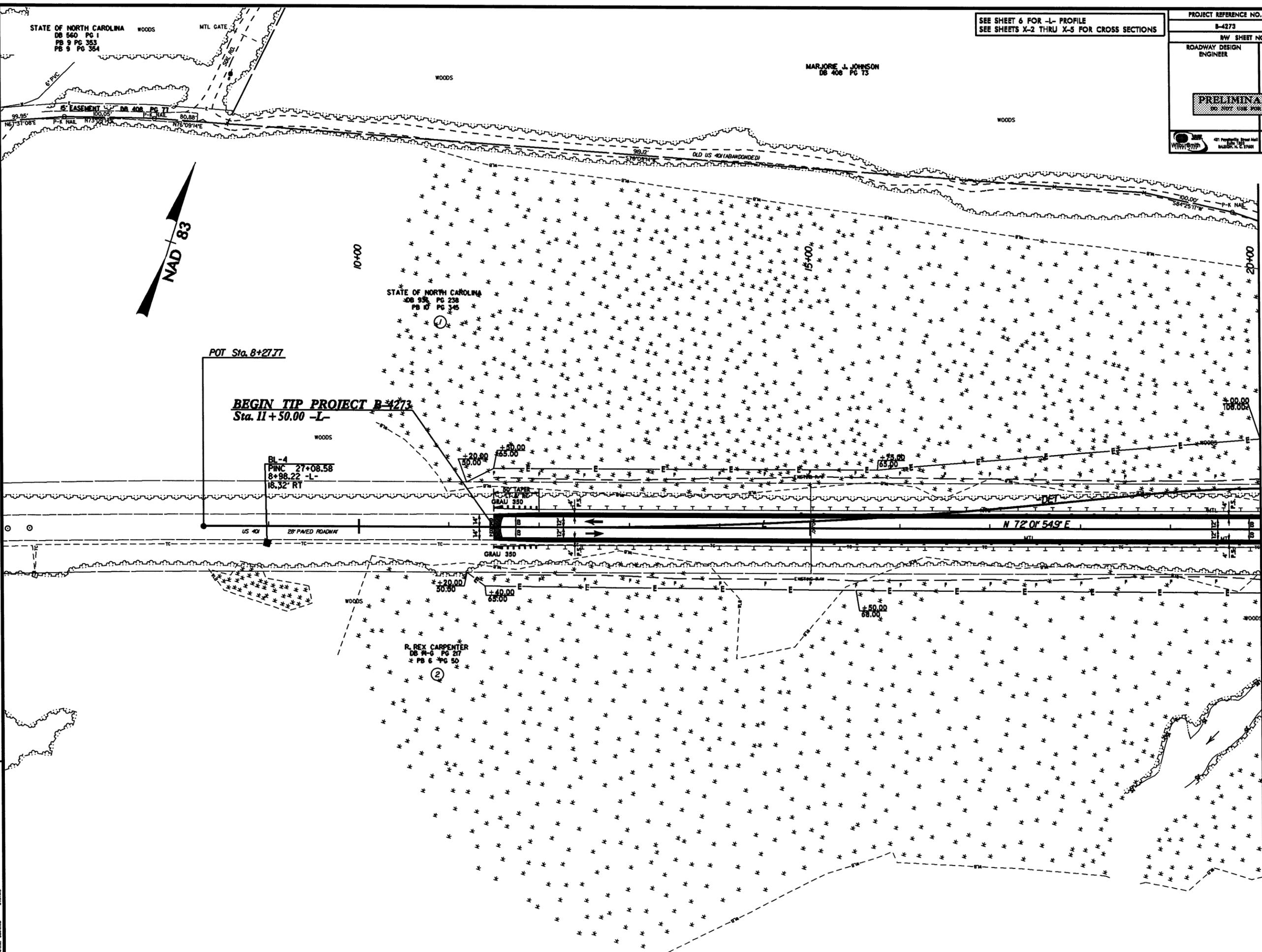
STATE OF NORTH CAROLINA  
DB 936 PG 238  
PB 07 PG 345

R. REX CARPENTER  
DB 94-0 PG 217  
PB 6 PG 50

MATCHLINE SEE SHEET 5  
STA. 20+00.00 -L-

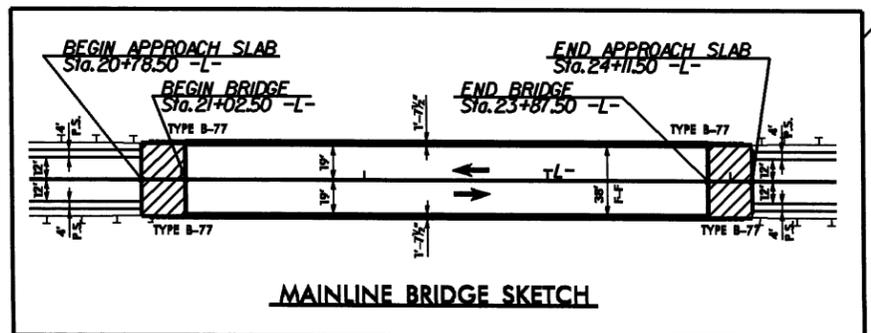
REVISIONS

FILE SPECS  
DATE SAVED  
STIMES

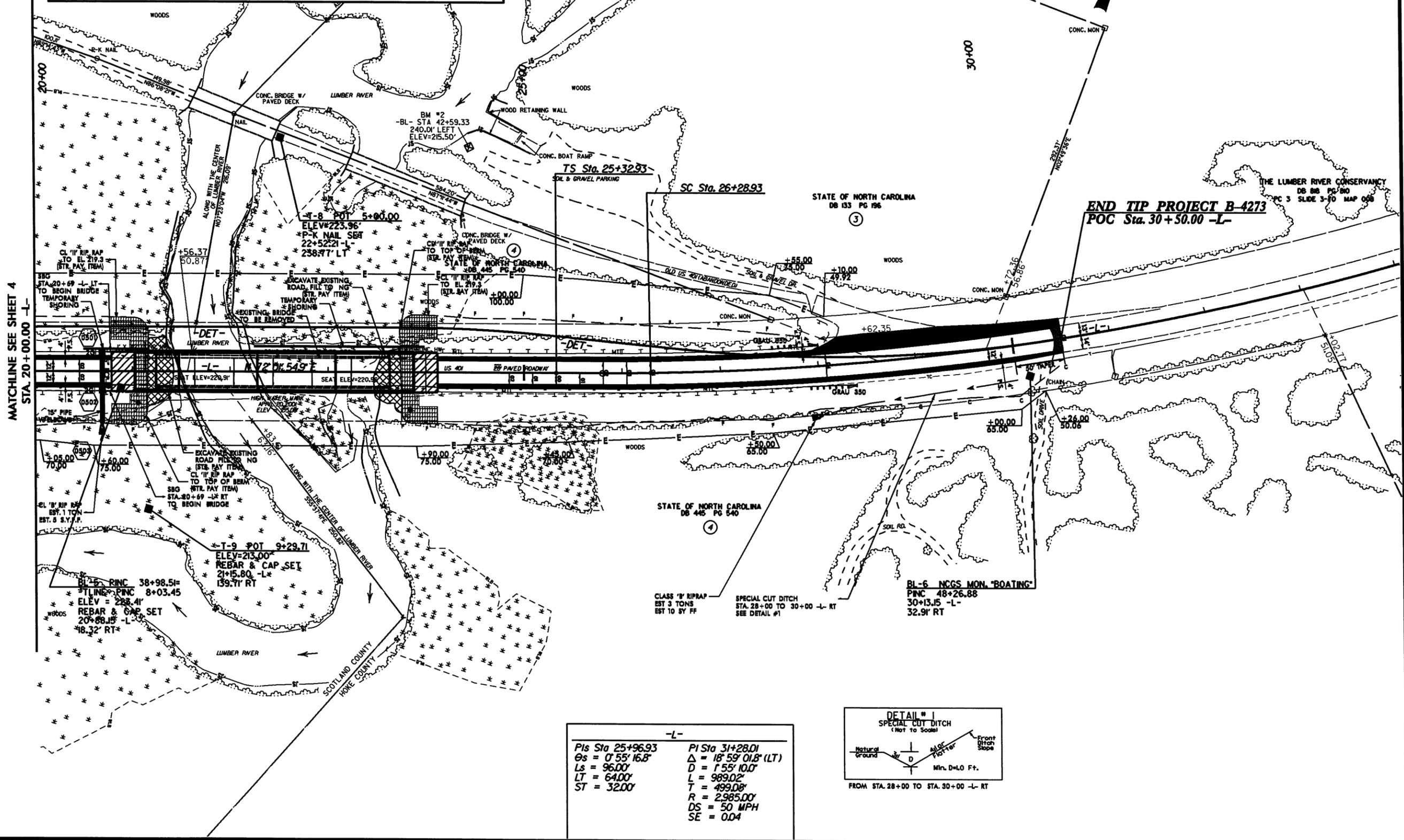


SEE SHEET 6 FOR -L- PROFILE  
SEE SHEETS X-5 THRU X-10 FOR CROSS SECTIONS

PROJECT REFERENCE NO. B-4273	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> <small>DO NOT USE FOR CONSTRUCTION</small>	



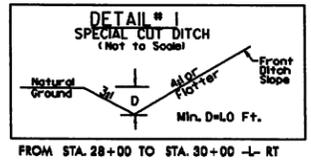
**MAINLINE BRIDGE SKETCH**



MATCHLINE SEE SHEET 4  
STA. 20+00.00 -L-

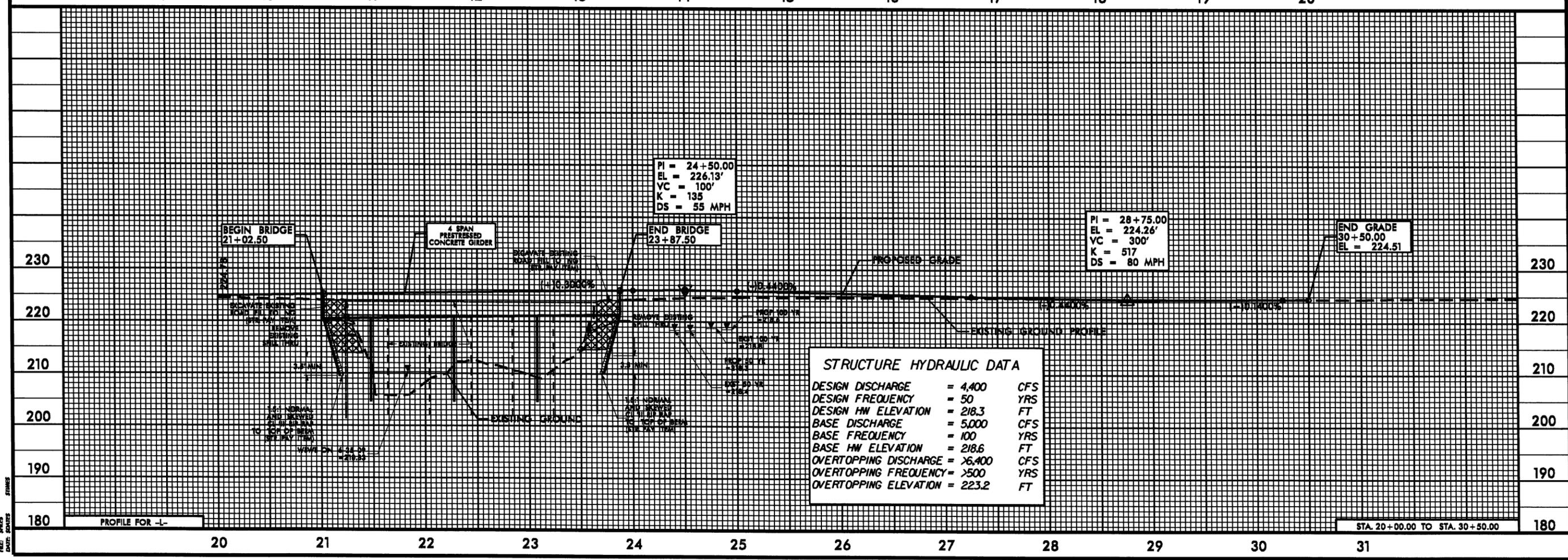
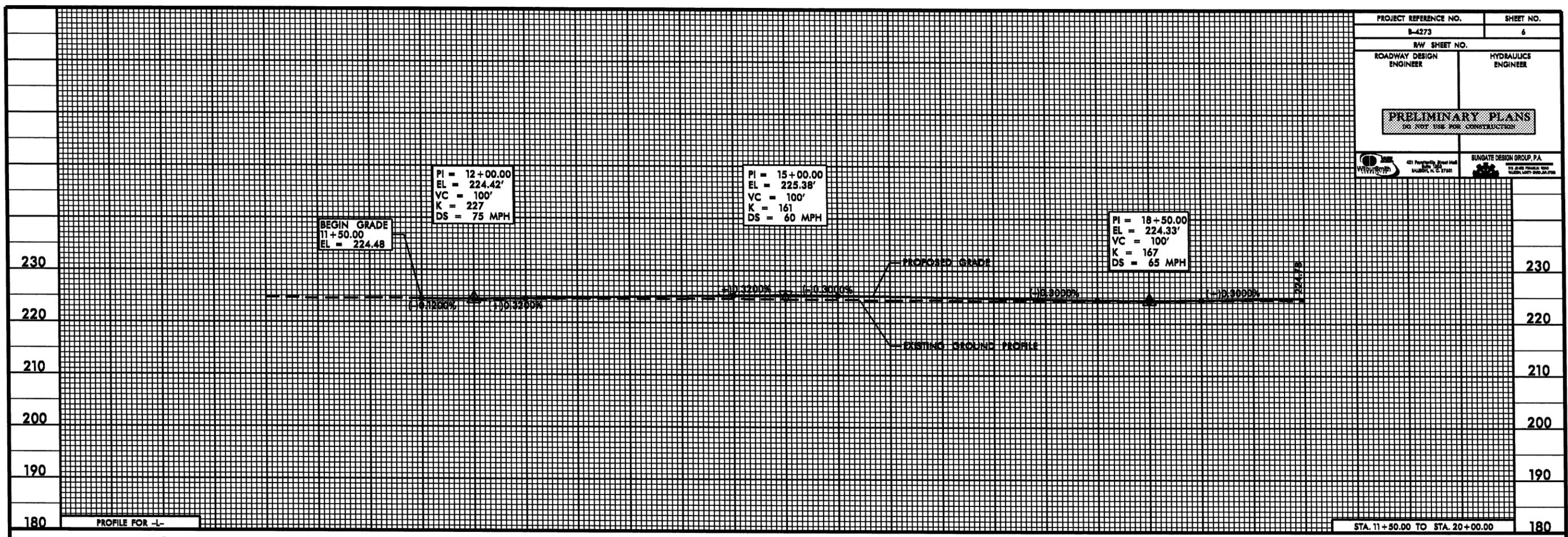
REVISIONS  
V1712 - TEMPORARY CONSTRUCTION EASEMENT REVISED ON PARCEL 3 AND 4 TO INCLUDE DETOUR DITCH

-L-	
PI Sta 25+96.93	PI Sta 31+28.01
Os = 0' 55" 16.8"	Δ = 18' 59" 01.8" (LT)
Ls = 96.00'	D = 1' 55" 10.0'
LT = 64.00'	L = 989.02'
ST = 32.00'	T = 499.08'
	R = 2,985.00'
	DS = 50 MPH
	SE = 0.04



FROM STA. 28+00 TO STA. 30+00 -L- RT

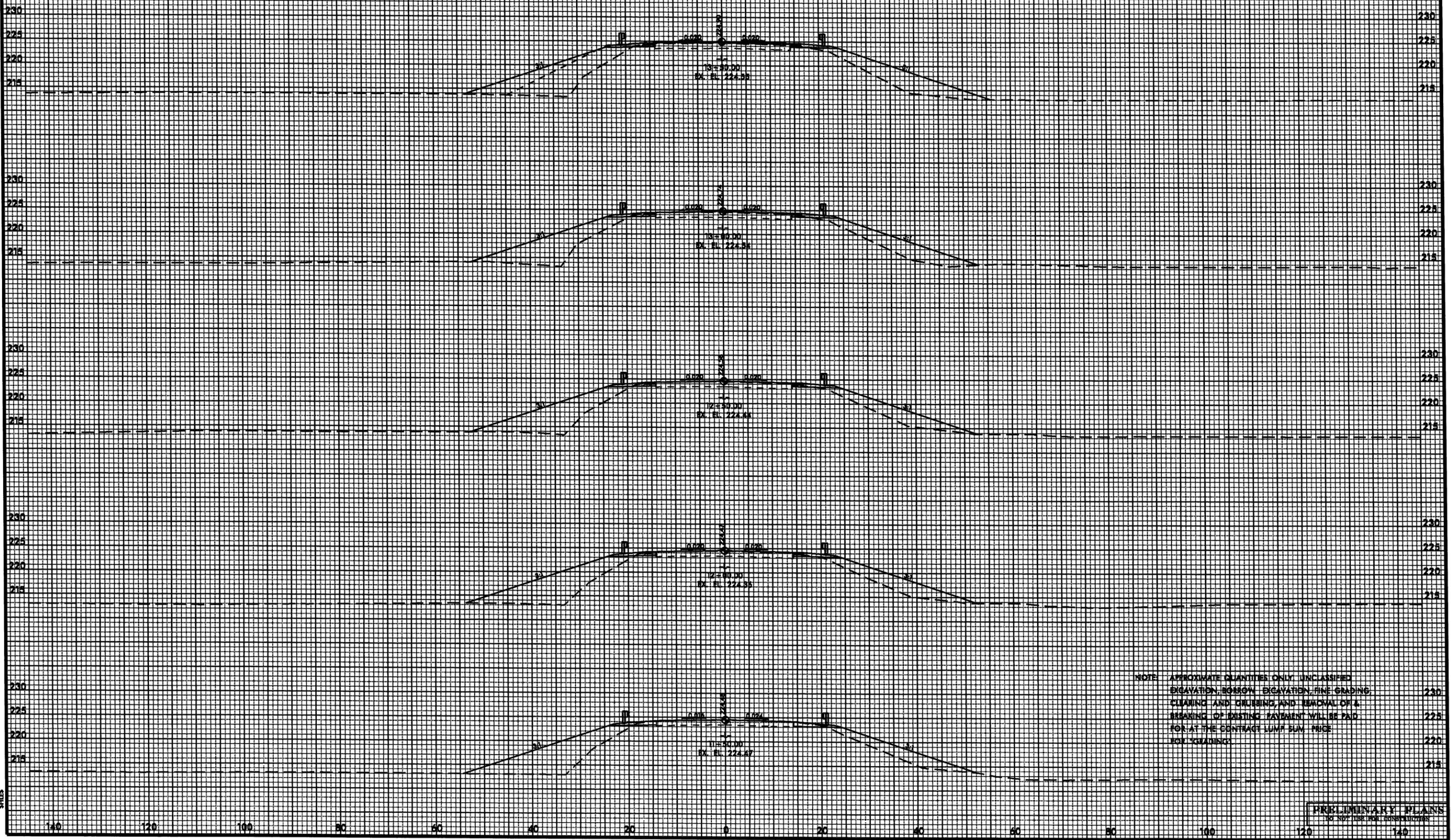
FILE: STRES  
DATE: 04/05  
SHEET: 5



FILE: STRES DATE: 04/15/05 STAGE:



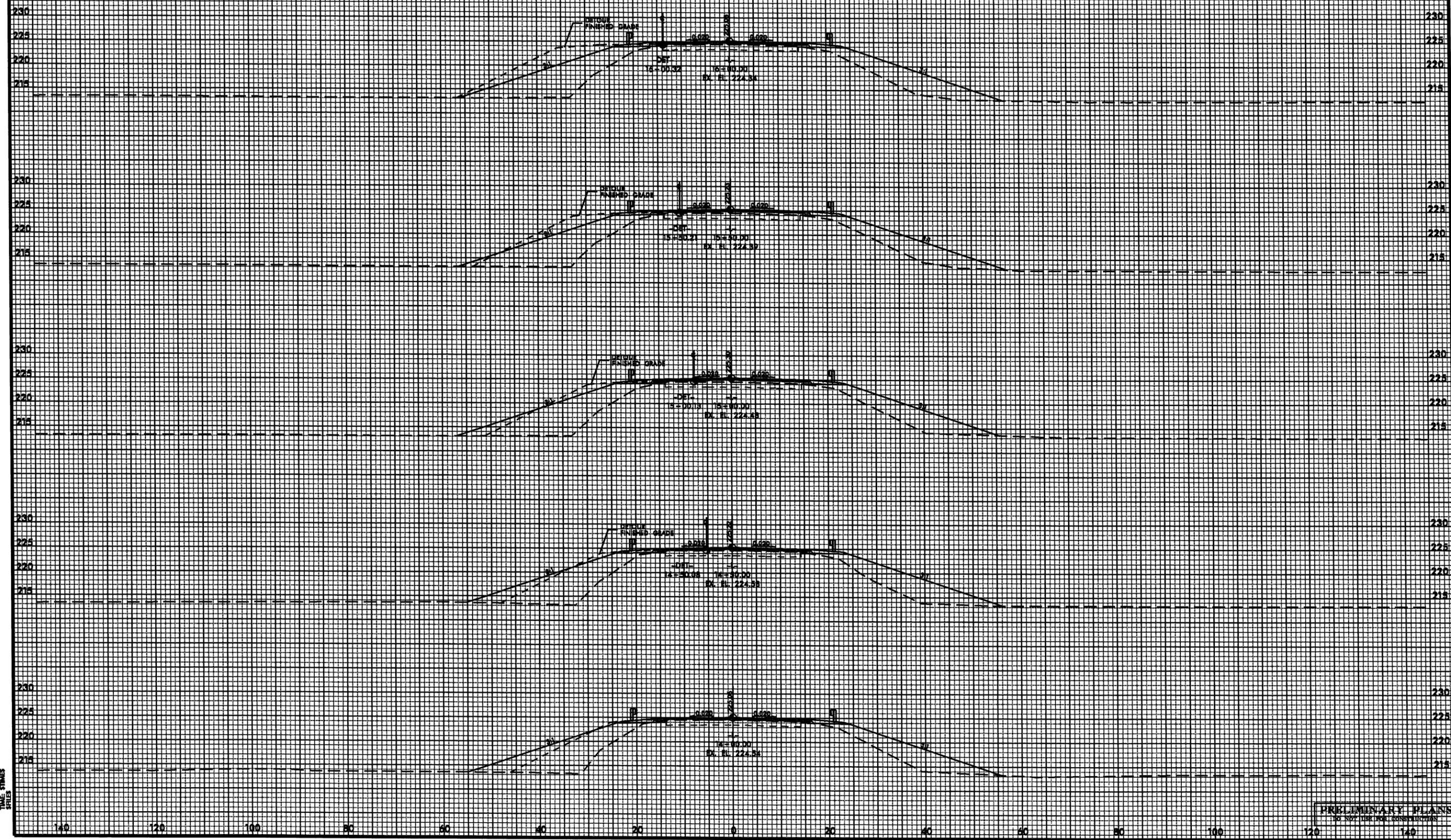
PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18



DATE: 04/25/18  
TIME: 10:00 AM  
SERIES: 1

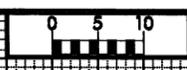
NOTE: APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL OF A BREAKING OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR GRADING.

PRELIMINARY PLANS  
No. 1188 1001 construction

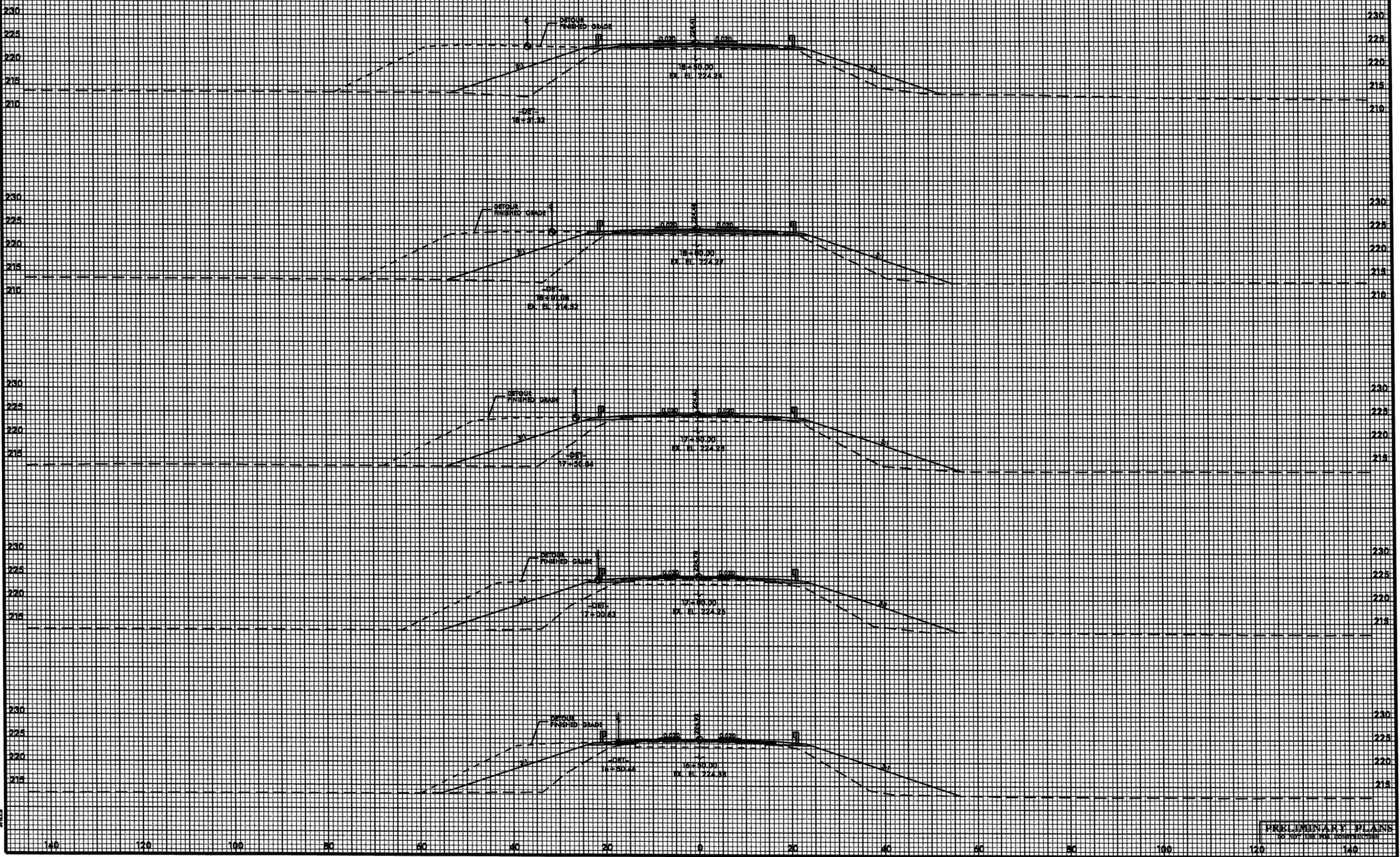


DATE, SCALE,  
TIME, STRIPS,  
\$FILES\$

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

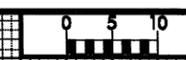


PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18

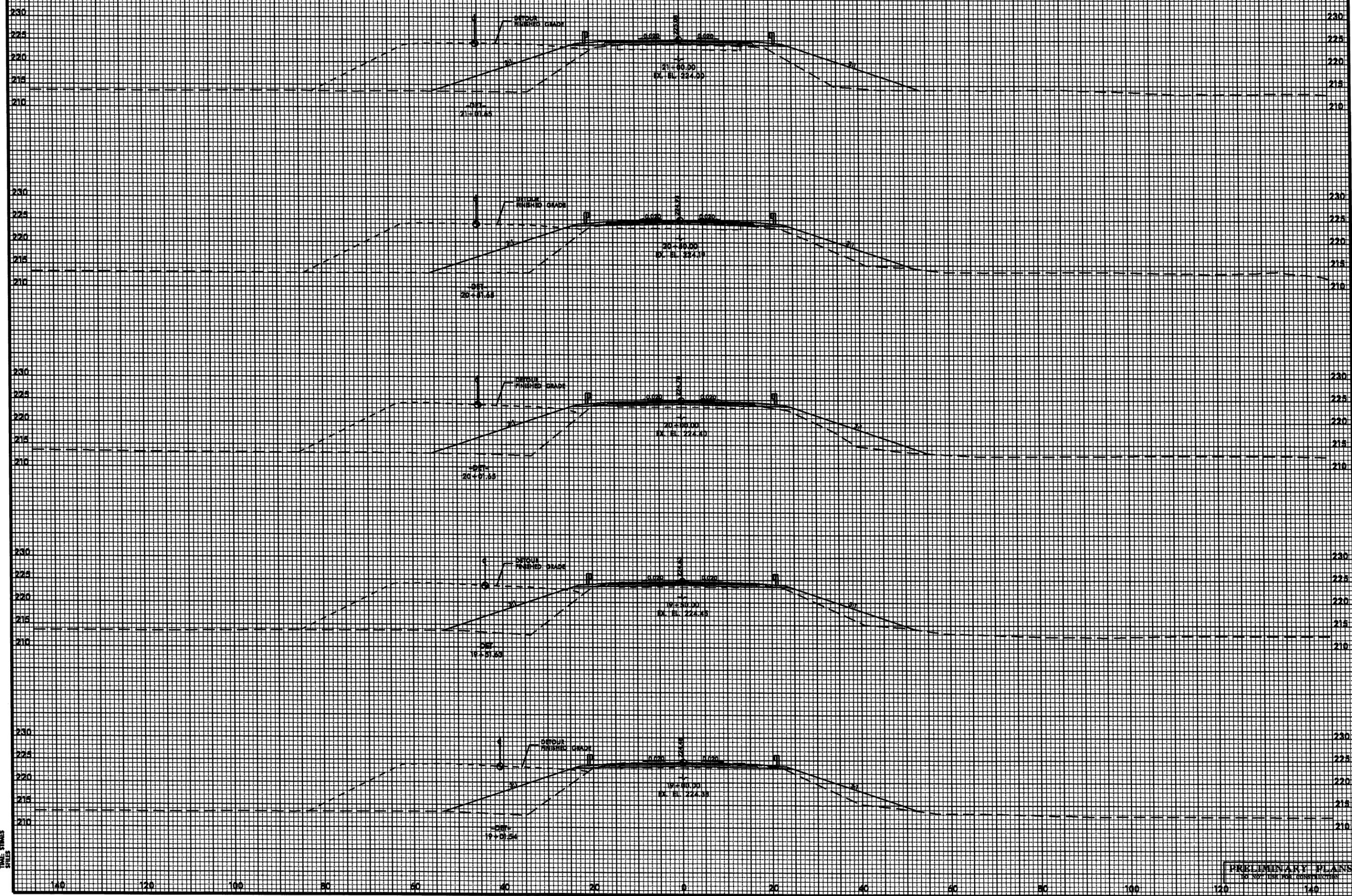


DATE: 04/25/18  
TIME: 11:00 AM  
SHEET: 18

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18

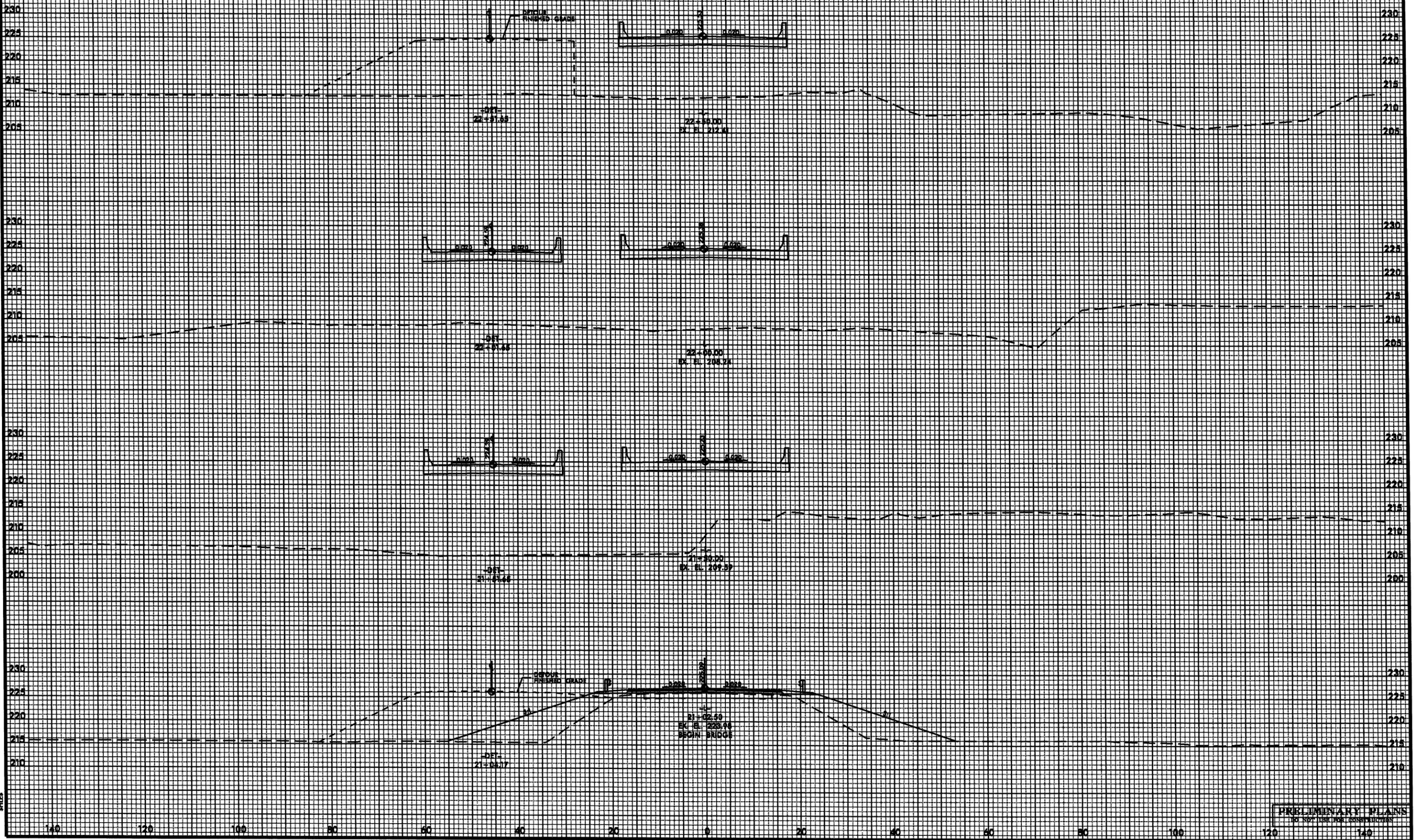


DATE  
SCALE  
STYLES

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18

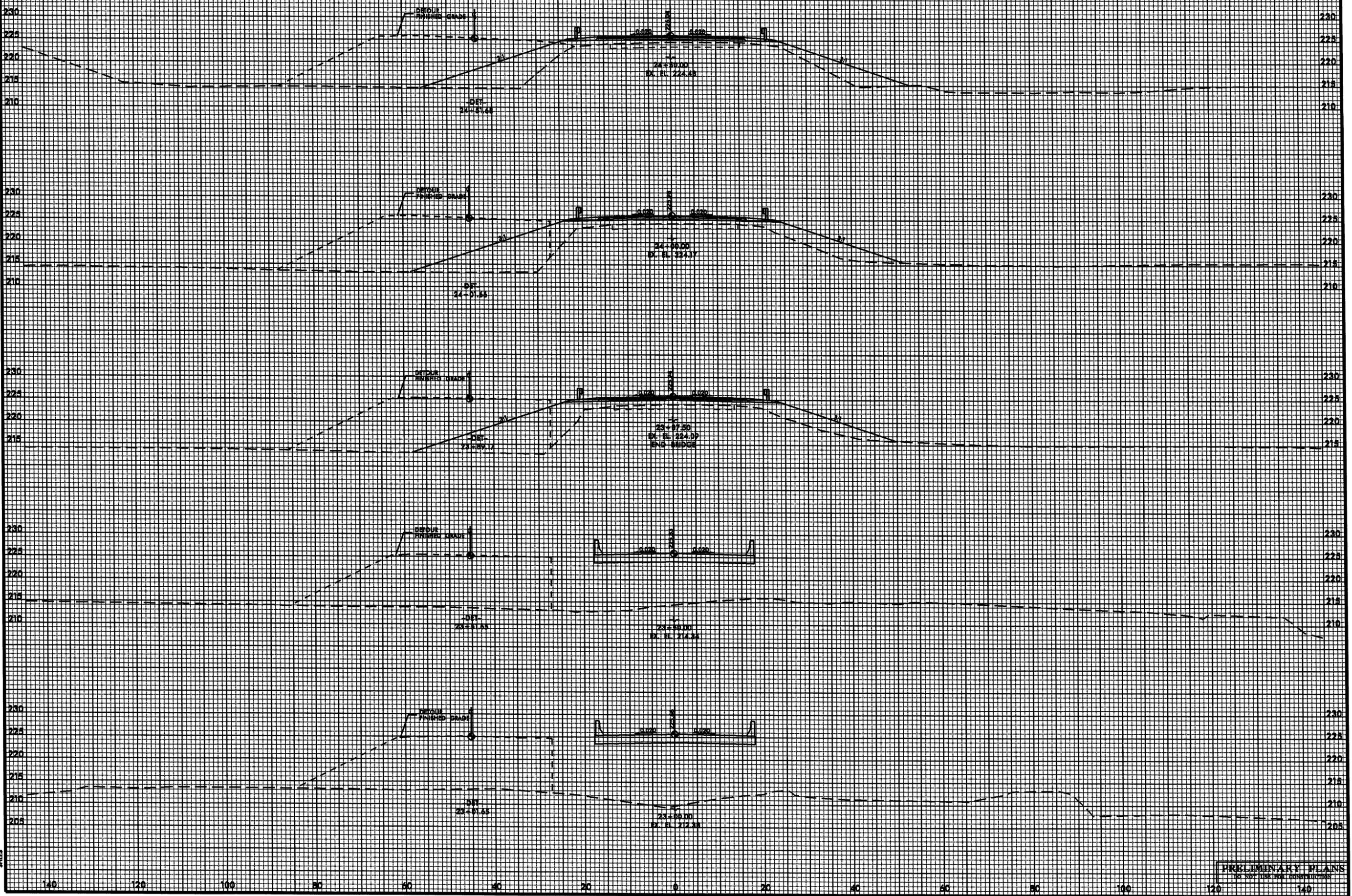


DATE: 04/25/13  
 TIME: 11:00 AM  
 BY: [Signature]

PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18

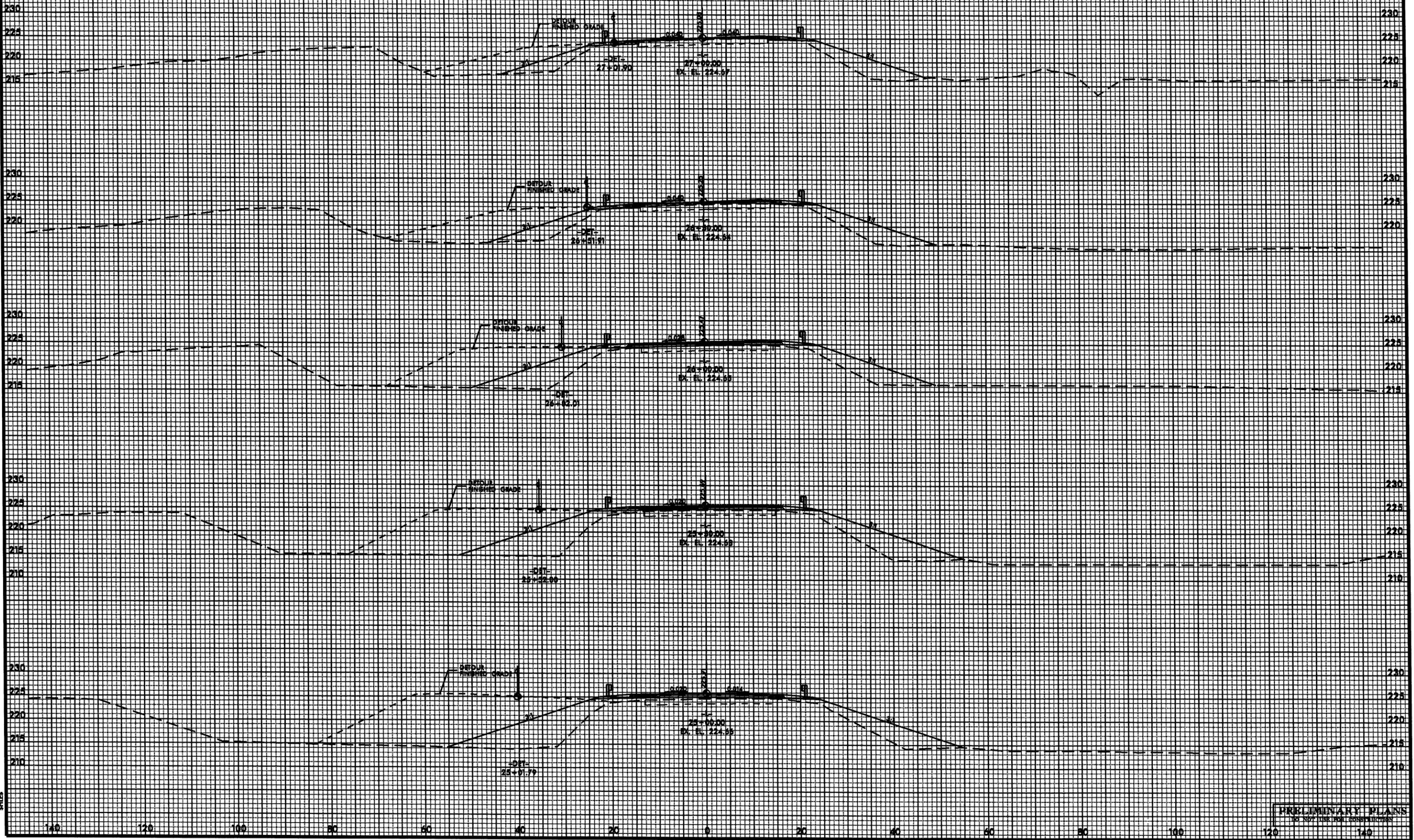


DATE: 04/25/18  
 TIME: 10:00 AM  
 BY: JMS

PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18



DATE: 04/25/08  
TIME: 10:00 AM  
SERIES: 1

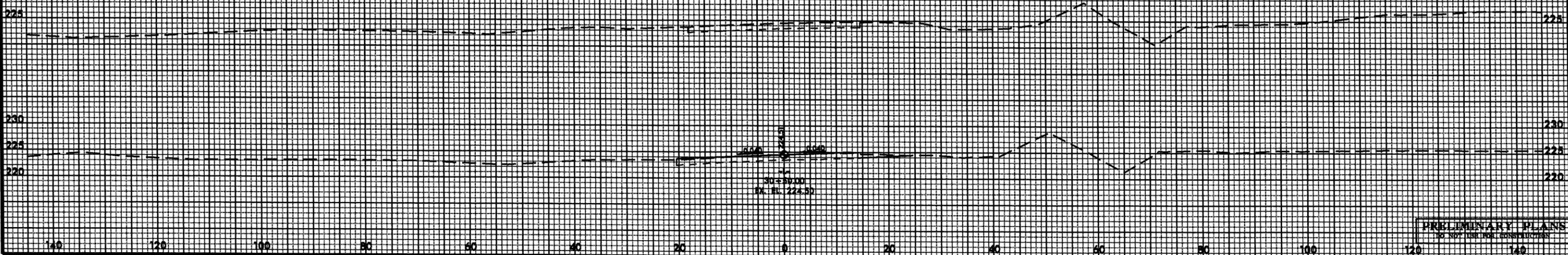
PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



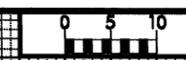


PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18

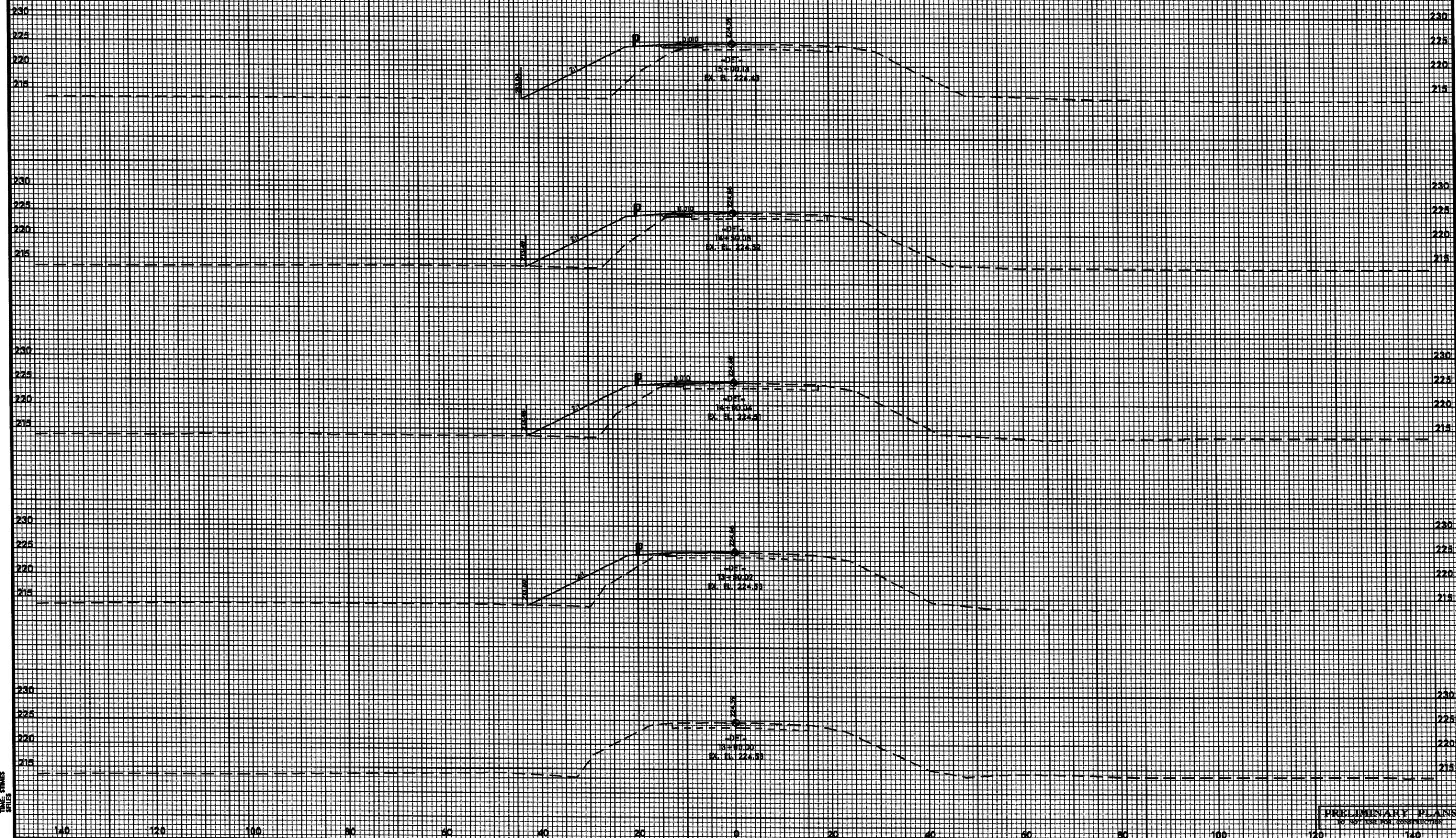
DATE  
DRAWN  
SCALE  
SERIES



PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

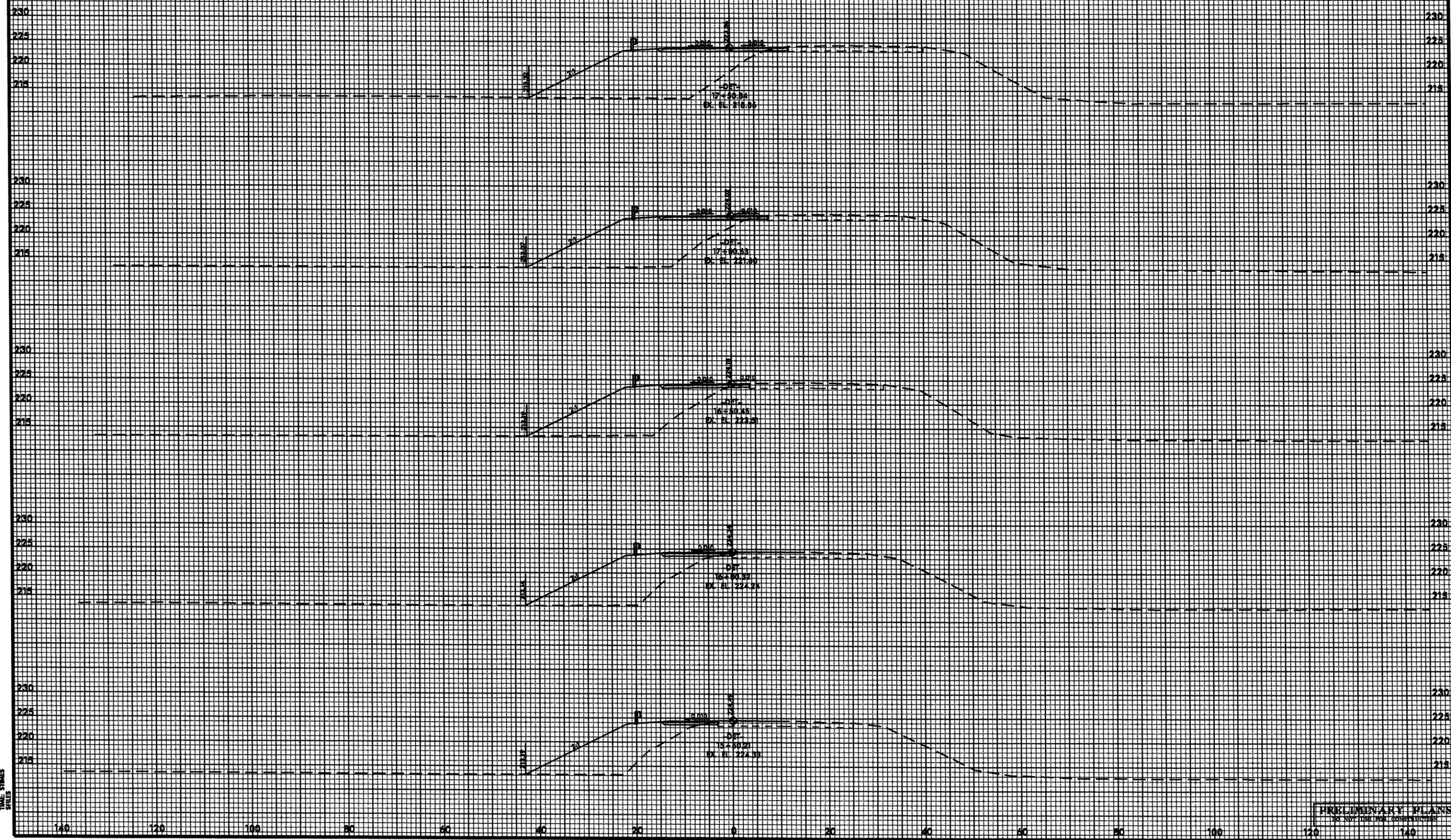


PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18



DATE: 04/25/10  
TIME: 11:00 AM  
SHEET: 18

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

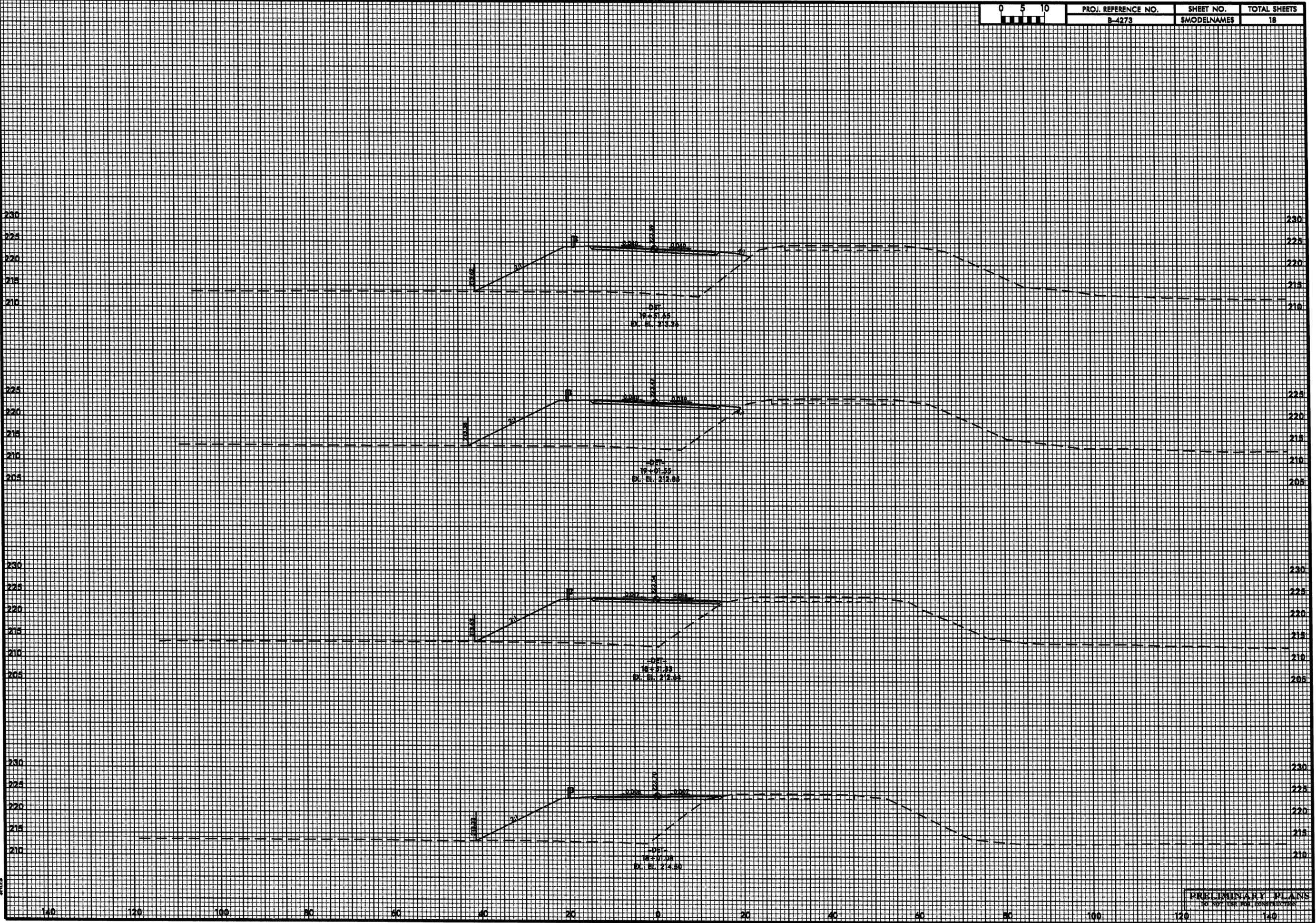


DATE: 04/25/18  
TIME: 11:00 AM  
SHEET: 18

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18

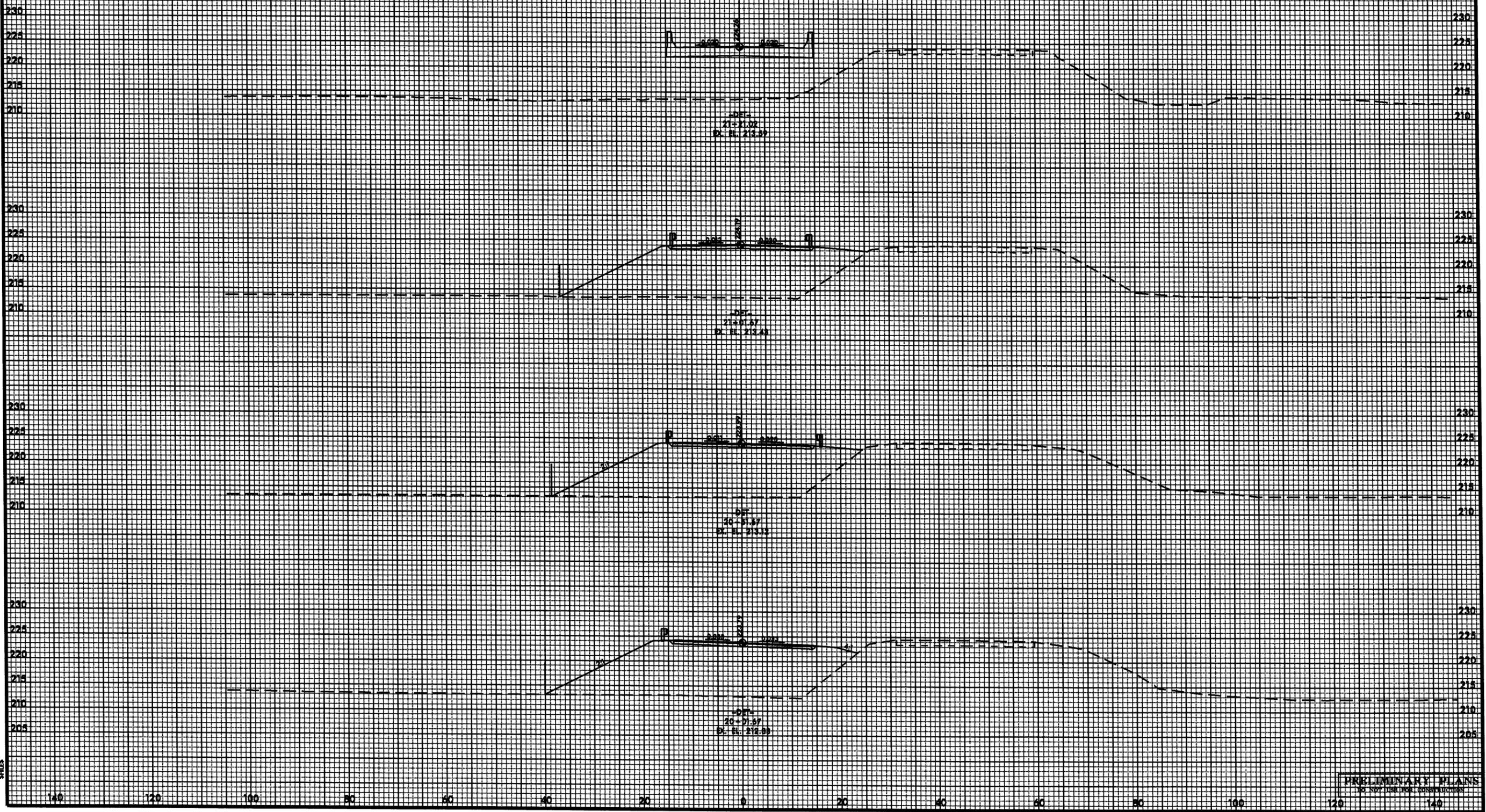


DATE: 04/25/18  
TIME: 10:00 AM  
SHEET: 18

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18

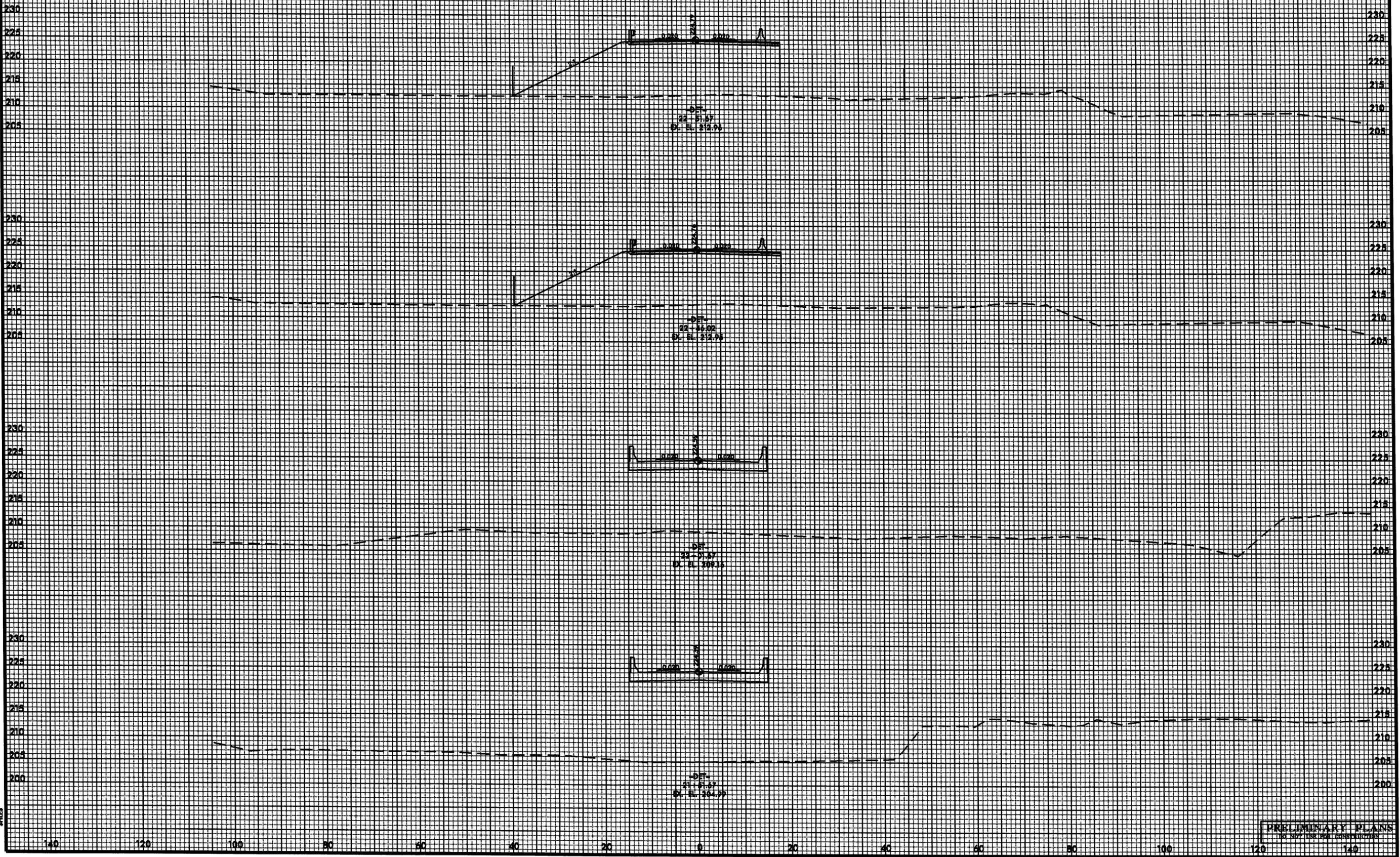


DATE: 08/25/2011  
TIME: 10:00 AM  
SHEET: 18

PRELIMINARY PLANS  
FOR ROADWAY CONSTRUCTION



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18

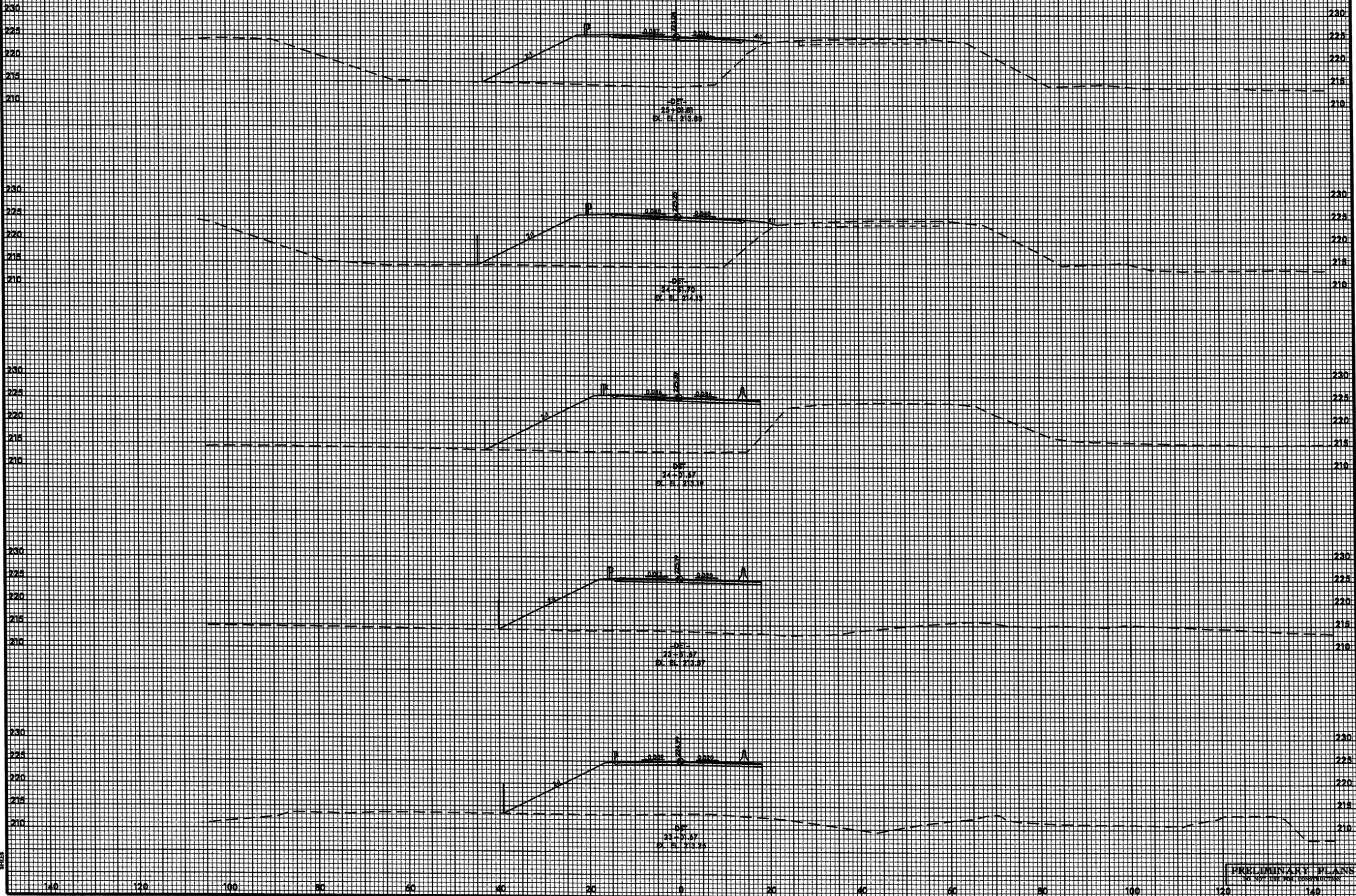


DATE: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_

PRELIMINARY PLANS  
NOT TO BE USED FOR CONSTRUCTION

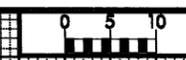


PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18



DATE GRADES  
FINAL STRIKES

PRELIMINARY PLANS  
NOT FOR CONSTRUCTION

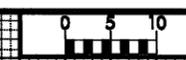


PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18

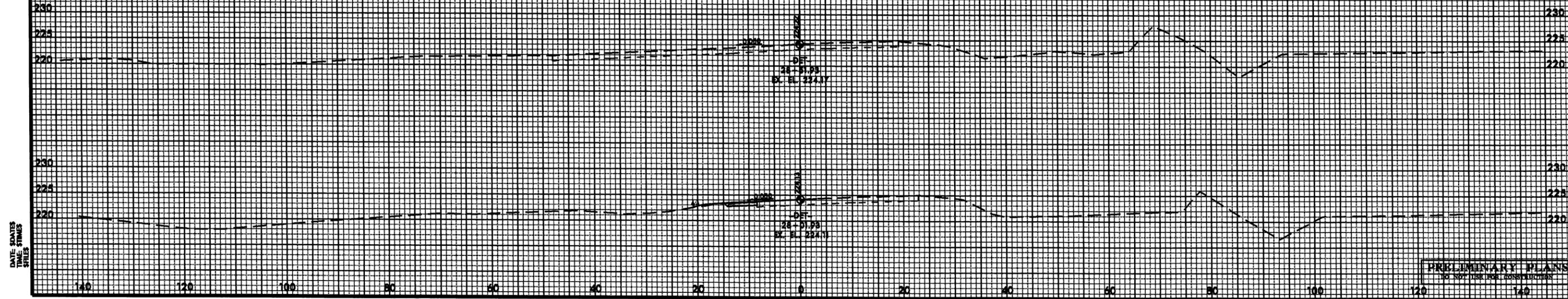


DATE  
SCALE  
STILES

PRELIMINARY PLANS  
NOT FOR CONSTRUCTION



PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-4273	\$MODELNAME\$	18



DATE  
TIME  
SERIES

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION