



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

EUGENE A. CONTI, JR.  
SECRETARY

April 20, 2012

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

ATTN: Mr. John T. Thomas, Jr.  
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permits 23, 33, and Section 401 Water Quality Certification** for the Replacement of Bridge No. 39 on US 64 over US 29/US 70/I-85 Business in Davidson County, North Carolina, TIP No. B-4497, Federal Aid Project No. BRSTP-64(80).

Debit \$240.00 from WBS Element 38391.1.1

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 39 on US 64 over US 29/US 70/I-85 Business in Davidson County. This involves replacement of the existing 4 span 245-foot long bridge with a 2 span 191-foot long bridge just north of existing location. Also, within the project limits, there is an existing 66-inch pipe which currently conveys an Unnamed Tributary to Michael Branch underneath US 29/70 70/I-85 Business that will be replaced. There will be 194 feet of permanent stream impacts due to channel relocation associated with the replacement of the existing 66-inch pipe with an 84-inch pipe. There will also be 20 feet of temporary stream impacts for erosion control during pipe replacement.

Please find enclosed the Pre-Construction Notification (PCN) form, Ecological Enhancement Program (EEP) letter, the USACE preliminary jurisdictional delineation form, stormwater management plan, permit drawings, and design plans for the above referenced project. A Categorical Exclusion (CE) was completed for this project on November 28, 2011 and distributed shortly thereafter. Additional copies are available upon request.

The proposed let date for the project is November 20, 2012 with a review date of October 2, 2012. However, the let date may advance as additional funds become available.

**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

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

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Deanna Riffey at [driffey@ncdot.gov](mailto:driffey@ncdot.gov) or (919) 707-6151.

Sincerely,



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

cc: NCDOT Permit Application Standard Distribution List



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

## Pre-Construction Notification (PCN) Form

### A. Applicant Information

#### 1. Processing

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

#### 2. Project Information

2a. Name of project:	Replacement of Bridge No. 39 on US 64 over US 29/US 70/I-85 Business
2b. County:	Davidson
2c. Nearest municipality / town:	Lexington
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-4497

#### 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) 707-6151
3g. Fax no.:	(919) 212-5785
3h. Email address:	driffey@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: 35.831415 (DD.DDDDDD)                      Longitude: - 80.270447 (-DD.DDDDDD)
1c. Property size:	0.29 acres
<b>2. Surface Waters</b>	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	UT Michael Branch
2b. Water Quality Classification of nearest receiving water:	C
2c. River basin:	Yadkin Pee-Dee
<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: Land use in the project vicinity is primarily urban development.	
3b. List the total estimated acreage of all existing wetlands on the property: 0	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 680	
3d. Explain the purpose of the proposed project: To replacement a structurally deficient bridge and pipe.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 245-foot bridge with a 191-foot bridge just north of the existing alignment using an off-site detour and replacing a 66" pipe. 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: perennial stream	<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: NCDOT 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):

- Wetlands                       Streams - tributaries                       Buffers  
 Open Waters                       Pond Construction

#### 2. Wetland Impacts

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

2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
<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>					

2h. Comments:

#### 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	Fill	UT Michael Branch	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	106	106
Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Erosion control	UT Michael Branch	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	10	10
Site 2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill	UT Michael Branch	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	88	88
Site 2 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Erosion control	UT Michael Branch	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	10	10
<b>3h. Total stream and tributary impacts</b>						194 Perm 20 Temp

3i. Comments:

<b>4. Open Water Impacts</b>								
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>						X Permanent X Temporary		
4g. Comments:								
<b>5. Pond or Lake Construction</b>								
If pond or lake construction proposed, then complete the chart below.								
5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
<b>5f. Total</b>								
5g. Comments:								
5h. Is a dam high hazard permit required?				<input type="checkbox"/> Yes <input type="checkbox"/> No      If yes, permit ID no:				
5i. Expected pond surface area (acres):								
5j. Size of pond watershed (acres):								
5k. Method of construction:								

**6. Buffer Impacts (for DWQ)**

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

6a. Project is in which protected basin?		<input type="checkbox"/> Neuse <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**

**1. Avoidance and Minimization**

1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.  
The proposed pipe replacement will take place alongside the existing pipe and most of the pipe installation will be done by trenchless method.

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.  
NCDOT will use best management for Sedimentation and Erosion Control and an open throat catch basin will be installed and set such that the open throats are one foot above natural ground elevation. An off-site detour will also be utilized.

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

2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, explain:
2b. If yes, mitigation is required by (check all that apply):	<input checked="" type="checkbox"/> DWQ <input checked="" type="checkbox"/> Corps
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input checked="" type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> Permittee Responsible Mitigation

**3. Complete if Using a Mitigation Bank**

3a. Name of Mitigation Bank: not applicable

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

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

4a. Approval letter from in-lieu fee program is attached.	<input checked="" type="checkbox"/> Yes
4b. Stream mitigation requested:	388 linear feet
4c. If using stream mitigation, stream temperature:	<input checked="" type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold
4d. Buffer mitigation requested (DWQ only):	square feet
4e. Riparian wetland mitigation requested:	acres
4f. Non-riparian wetland mitigation requested:	acres
4g. Coastal (tidal) wetland mitigation requested:	acres
4h. Comments:	

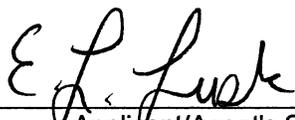
**5. Complete if Using a Permittee Responsible Mitigation Plan**

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

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?				<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>				
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 not, explain why. Comments: Not in protected buffer basin.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>2. Stormwater Management Plan</b>	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <input checked="" type="checkbox"/> DWQ 401 Unit
<b>3. Certified Local Government Stormwater Review</b>	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Phase II <input type="checkbox"/> NSW <input type="checkbox"/> USMP <input type="checkbox"/> Water Supply Watershed <input type="checkbox"/> Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>4. DWQ Stormwater Program Review</b>	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Coastal counties <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input 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 N/A
5b. Have all of the 401 Unit submittal requirements been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A

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

<b>5. Endangered Species and Designated Critical Habitat (Corps Requirement)</b>		
5a. Will this project occur in or near an area with federally protected species or habitat? Habitat for <i>Helianthus schweinitzii</i> .	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts? No effect ; Recent surveys occurred on 7/11/2011 and 10/27/11	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh <input type="checkbox"/> Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? USFWS county list and NCNHP database along with field surveys.		
<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 type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
<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.)	4.20.12 _____ Date



April 12, 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-4497, Replace Bridge Number 39 over US 29/701/I-85 Business on US 64, Davidson County**

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation for the subject project. Based on the information supplied by you on April 10, 2012, the impacts are located in CU 03040103 of the Yadkin River basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Yadkin 03040103 CP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	194	0	0	0	0	0

EEP commits to implementing sufficient compensatory stream and 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. John Thomas, USACE – Raleigh Regulatory Field Office  
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit  
File: B-4497

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



**PRELIMINARY JURISDICTIONAL DETERMINATION FORM**

**BACKGROUND INFORMATION**

- A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):**
  
- B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:**  
Deanna Riffey, NCDOT, 1598 Mail Service Center, Raleigh, NC 27699-1598
  
- C. DISTRICT OFFICE, FILE NAME, AND NUMBER: CESAW-RG-R**
  
- D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**  
TIP: B-4497 Description: Replace Bridge 39 over US 29/70/I-85 Business

**(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)**

State: NC County/parish/borough: Davidson City: Lexington  
Center coordinates of site (lat/long in degree decimal format):  
Lat. 35.831415°N, Long. -80.270447° W  
Universal Transverse Mercator:  
Name of nearest waterbody: UT Michael Branch

Identify (estimate) amount of waters in the review area:  
Non-wetland waters: 680 linear feet: 8 width (ft) and/or            acres.  
Cowardin Class: Riverine  
Stream Flow: Perennial  
Wetlands:            acres.  
Cowardin Class:

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

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

- Office (Desk) Determination Date:
- Field Determination Date(s):

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

preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

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

**SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply**

- checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant
- 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: 1:24000;
- 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 Geodectic Vertical Datum of 1929)
  - Photographs:  Aerial (Name & Date): or  Other (Name & Date):
  - Previous determination(s). File no. and date of response letter:
  - Other information (please specify):

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

\_\_\_\_\_  
Signature and date of  
Regulatory Project Manager  
(REQUIRED)

*Daanno Ruffo 4/5/12*  
\_\_\_\_\_  
Signature and date of  
person requesting preliminary JD  
(REQUIRED, unless obtaining  
the signature is impracticable)





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

(Version 1.2, Released September 2011)

Project/TIP No.: B-4497 County(ies): Davidson

**General Project Information**

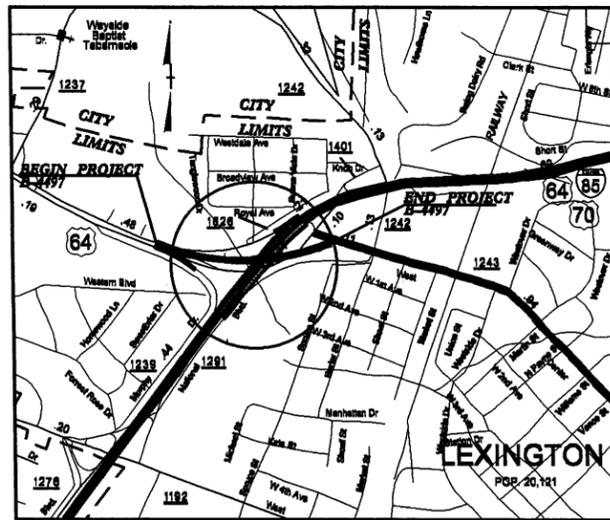
<b>Project No.:</b>	B-4497	<b>Project Type:</b>	Bridge Replacement	<b>Date:</b>	4/4/2012
<b>NCDOT Contact:</b>	Ray Lovinggood	<b>Contractor / Designer:</b>	NCDOT Division of Highways is the designer		
<b>Address:</b>	NCDOT 1590 MSC Raleigh, NC 27699-1590	<b>Address:</b>	(Same as NCDOT contact)		
<b>Phone:</b>	919.707.6700	<b>Phone:</b>			
<b>Email:</b>	rlovinggood@ncdot.gov	<b>Email:</b>			
<b>City/Town:</b>	Lexington	<b>County(ies):</b>	Davidson		
<b>River Basin(s):</b>	Yadkin-Pee Dee	<b>CAMA County?</b>	No		
<b>Primary Receiving Water:</b>	UT to Michael Branch	<b>NCDWQ Stream Index No.:</b>	12-113-3		
<b>NCDWQ Surface Water Classification for Primary Receiving Water</b>	Primary:	<b>Class C</b>			
<b>Other Stream Classification:</b>					
<b>303(d) Impairments:</b>	None				
<b>Buffer Rules in Effect</b>	N/A				

**Project Description**

<b>Project Length (lin. Miles or feet):</b>	0.294 miles	<b>Surrounding Land Use:</b>	Urban and suburban
<b>Project Built-Upon Area (ac.)</b>	4.45	<b>Proposed Project</b>	Existing Site
<b>Typical Cross Section Description:</b>	The -L- line has two 12' lanes separated by a painted median which varies in width from 8' to 12'. Open shoulders are used except on the low side of the superelevated road where shoulder berm gutter will be installed.		
<b>Average Daily Traffic (veh/hr/day):</b>	38,600	<b>Existing:</b>	22,040

**General Project Narrative:**  
 Replace the interchange bridge #39 that carries US-64 over US-29/US-70/I-85 Bus. The new bridge is shifted to the north from the old bridge slightly to allow better roadway alignment. There is an existing drainage pipe buried deep below the interchange that is in poor condition and is undersized and it will be replaced with this project. The pipe is a 66" reinforced concrete pipe and the replacement pipe will be an 84" structure placed alongside of the existing pipe. Most of the installation will be done by "trenchless method" and the pipe material will be welded steel. The pipe will be buried one foot and one foot sills will be welded at both ends. General SCM type for this project is open, grass shoulders. At -L- Sta 18+90, 110' Left, an "open throat catch basin" will be installed and set such that the open throats are one foot above natural ground elevation, thus providing some storage and detention for the stormwater.

See Sheet 1 A For Index of Sheets



**VICINITY MAP**

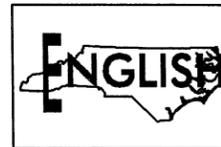
SEE SHEET 2-3 FOR OFF-SITE DETOURS

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

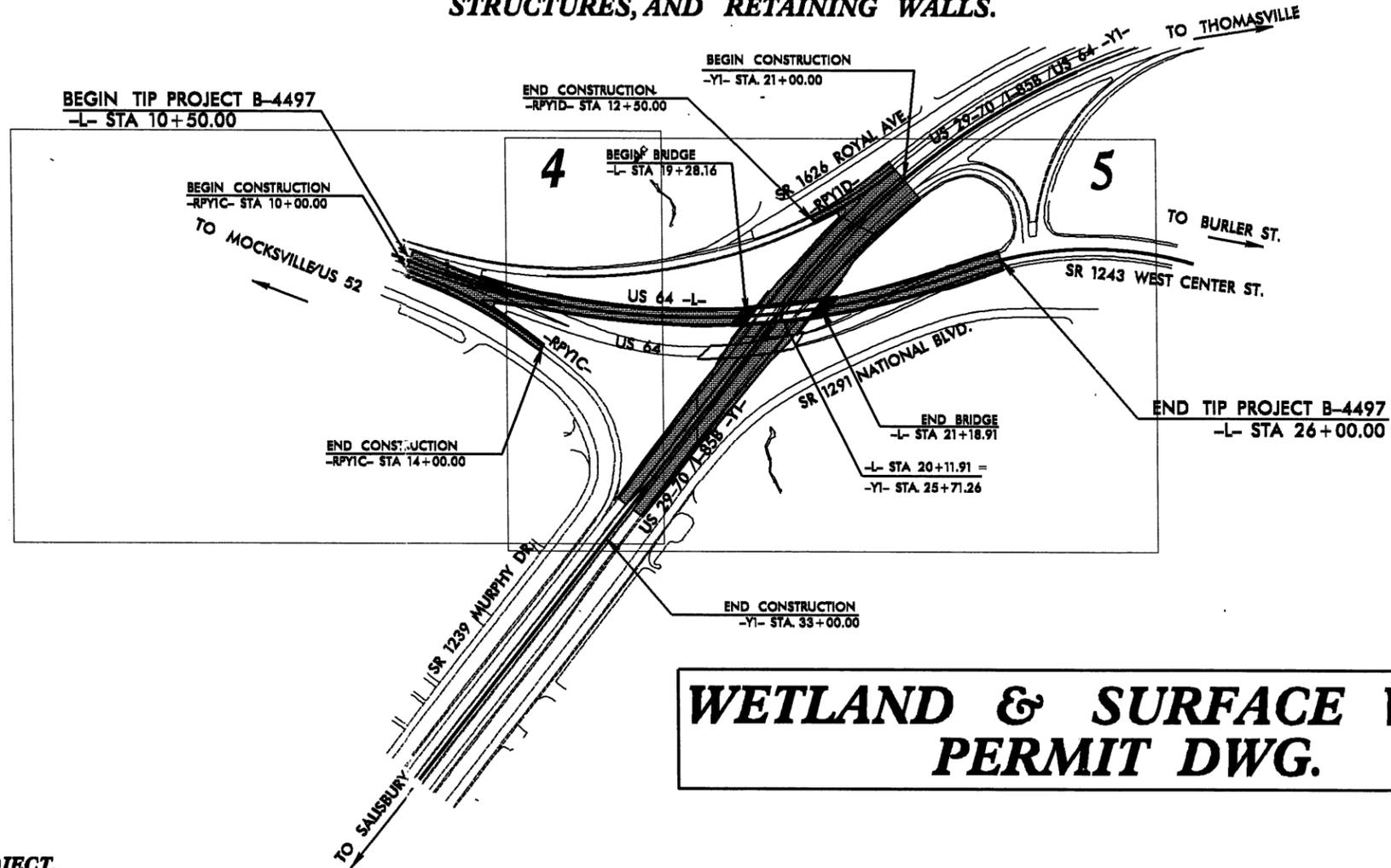
**DAVIDSON COUNTY**

**LOCATION: REPLACE BRIDGE 39 OVER US 29-70 / I-85 BUS ON US 64**

**TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURES, AND RETAINING WALLS.**



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4497	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38391.1.1	BRSTP-64(80)	P.E.	
38391.2.1	BRSTP-64(80)	RW/UTIL	
Permit Drawing			
Sheet 1 of 2			

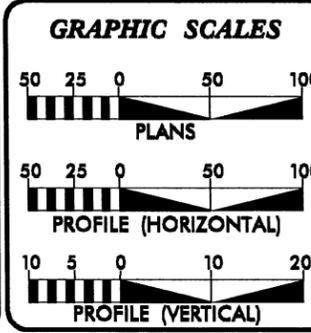


**WETLAND & SURFACE WATER PERMIT DWG.**

**THERE IS CONTROL OF ACCESS ON THIS PROJECT.**  
**THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF LEXINGTON.**  
**CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.**

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

**CONTRACT:**



**DESIGN DATA**

ADT 2012 =	22,040
ADT 2035 =	38,600
DHV =	10 %
D =	55 %
T =	17 % *
V =	50 MPH
ARTERIAL	
* TTST 12	DUAL 5
REGIONAL TIER	

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-4497 =	0.258
LENGTH OF STRUCTURE TIP PROJECT B-4497 =	0.036
TOTAL LENGTH OF ROADWAY TIP PROJECT B-4497 =	0.294

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

2012 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:** ANTHONY A. HOUSER, PE  
OCTOBER 21, 2011  
PROJECT ENGINEER

**LETTING DATE:** JASON TALLEY, PE  
NOVEMBER 20, 2012  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

SIGNATURE: \_\_\_\_\_

**ROADWAY DESIGN ENGINEER**

SIGNATURE: \_\_\_\_\_

**DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER

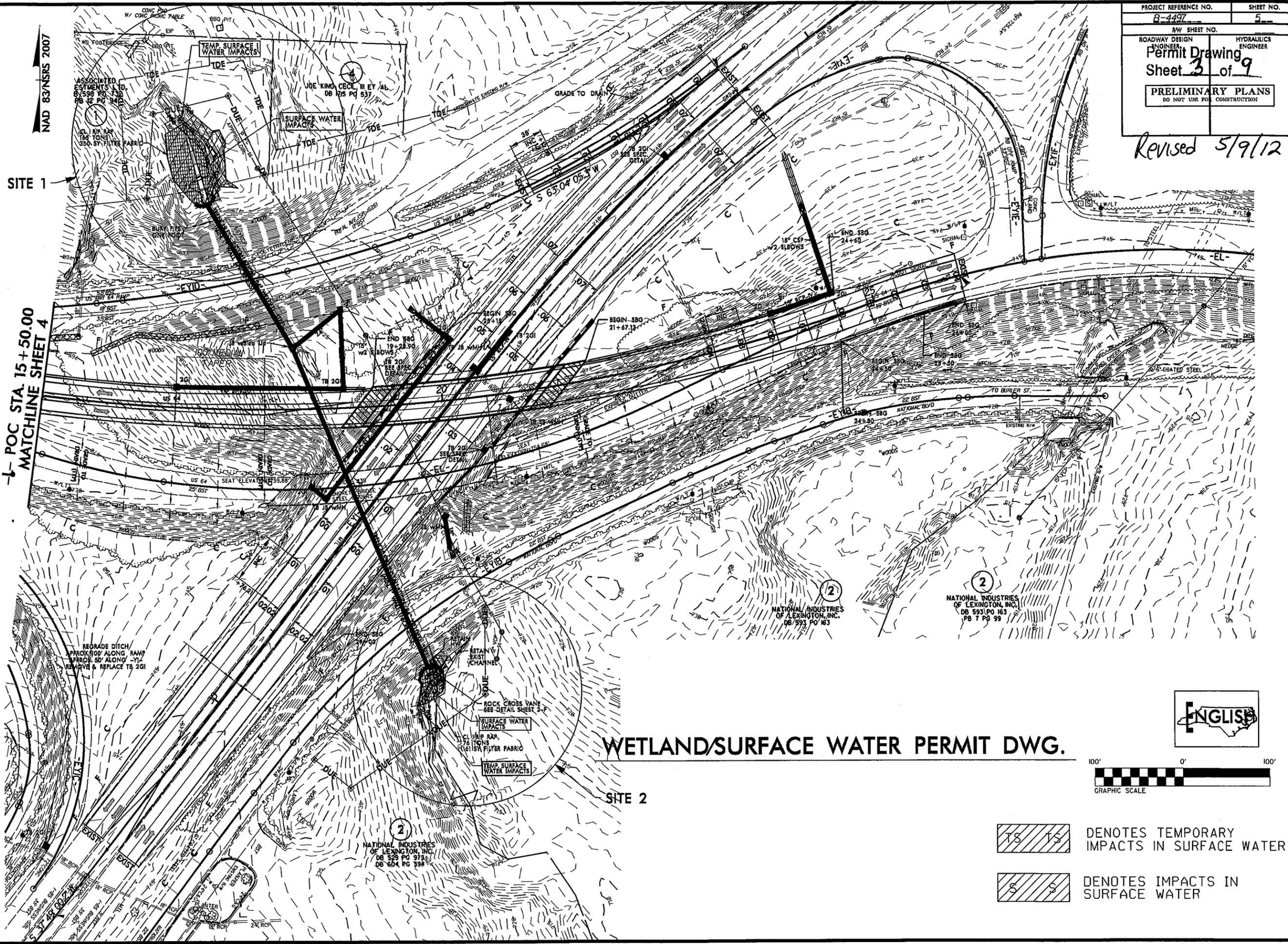
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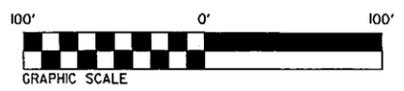
PROJECT REFERENCE NO. B-4497	SHEET NO. 5
REV SHEET NO.	
ROADWAY DESIGN ENGINEER Permit Drawing Sheet 3 of 9	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Revised 5/9/12

8/17/99  
REVISIONS  
TIME TO SIGNATURES



# WETLAND/SURFACE WATER PERMIT DWG.



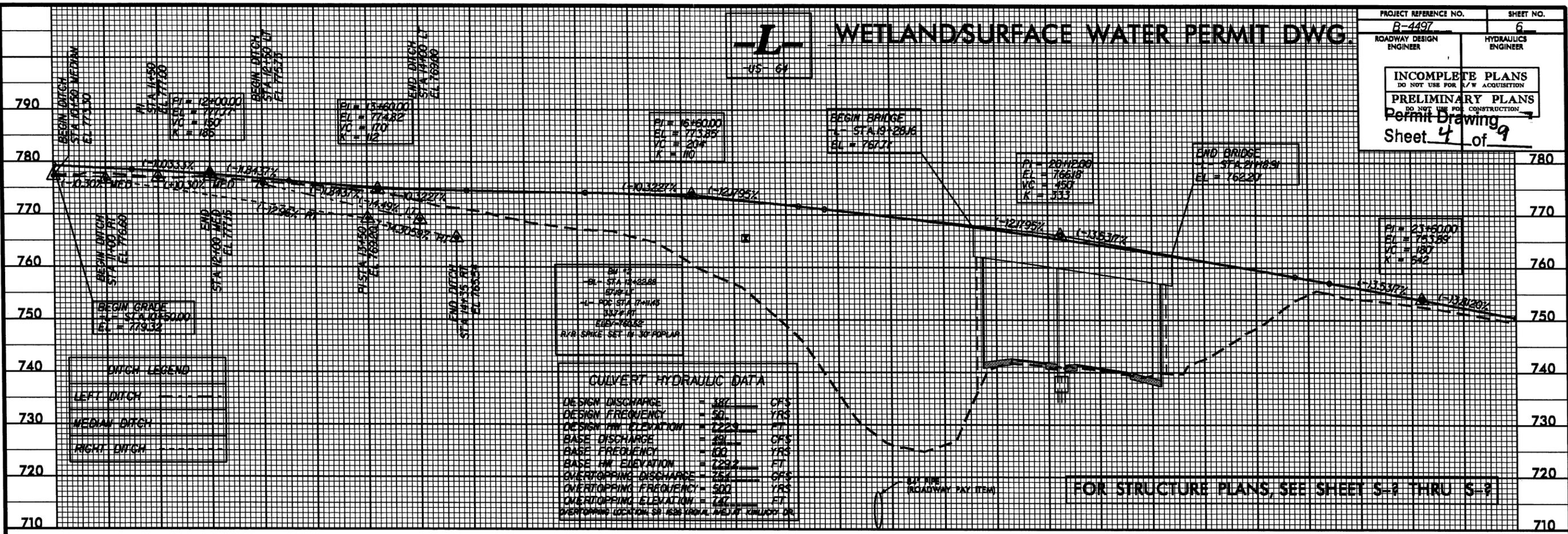
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES IMPACTS IN SURFACE WATER

5/28/99  
 SYSTEM TIME: 11:00 AM  
 DATE: 5/28/99  
 TIME: 11:00 AM  
 USER: JLD  
 PROJECT: B-4497

**L**  
US 64

# WETLANDS SURFACE WATER PERMIT DWG.

PROJECT REFERENCE NO. B-4497	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION <b>Permit Drawing</b> Sheet <b>4</b> of <b>9</b>	

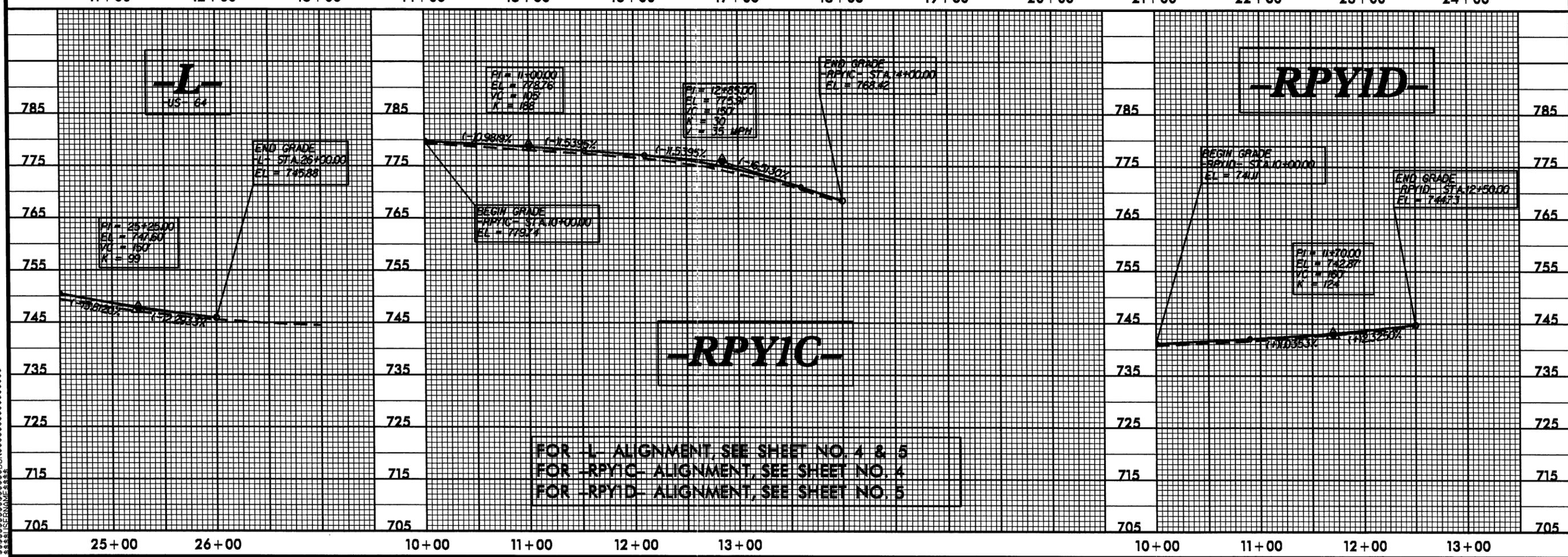


**DITCH LEGEND**

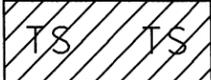
LEFT DITCH	---
MEDIAN DITCH	---
RIGHT DITCH	---

BM 15  
 EL STA 12428.8  
 STABLE  
 EL FOR STA 14114.8  
 3377 FT  
 ELEV 740.8  
 R/R SPIKE SET IN 30' POPLAR

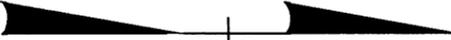
FOR STRUCTURE PLANS, SEE SHEET S-2 THRU S-3

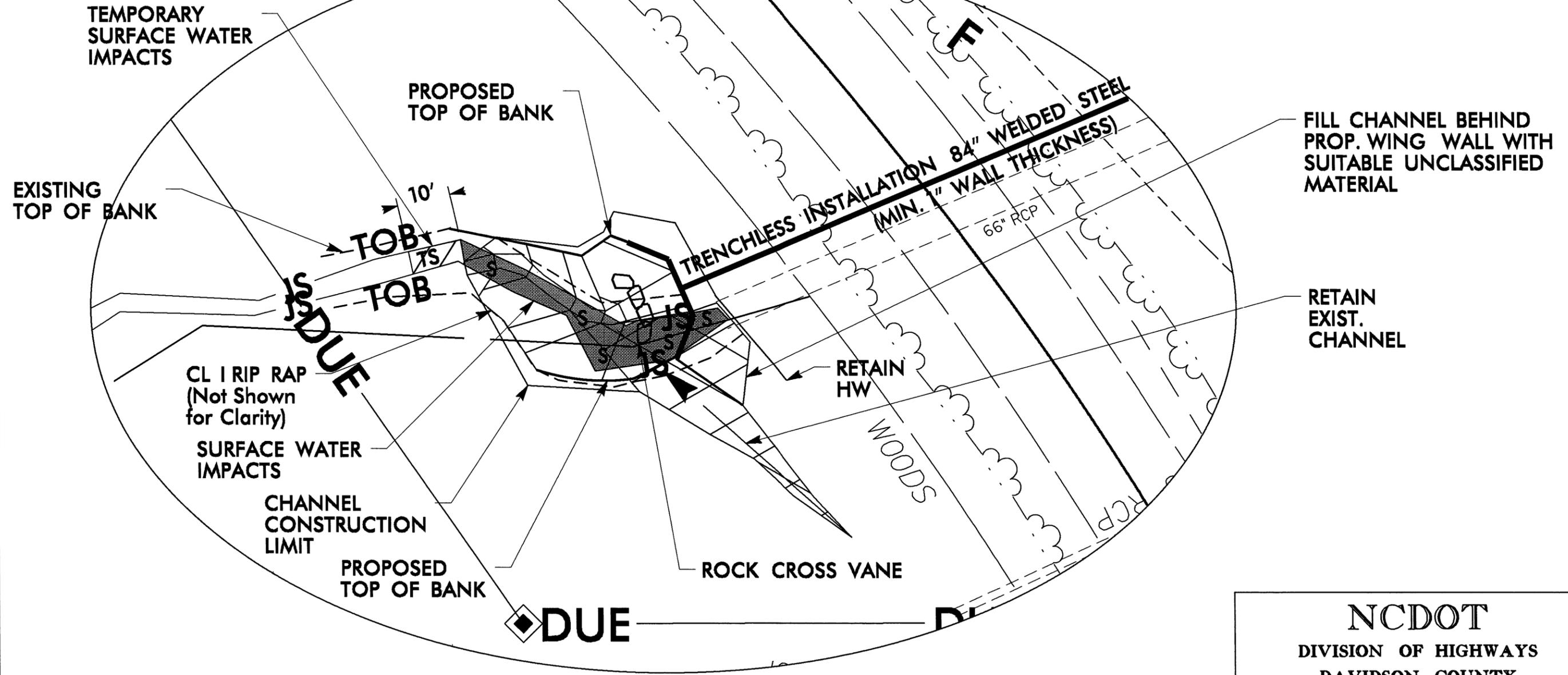


FOR -L- ALIGNMENT, SEE SHEET NO. 4 & 5  
 FOR -RPYIC- ALIGNMENT, SEE SHEET NO. 4  
 FOR -RPYID- ALIGNMENT, SEE SHEET NO. 5

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

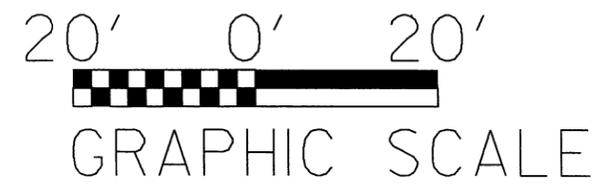
 DENOTES IMPACTS IN SURFACE WATER

  
NAD 83/NSRS 2007



FILL CHANNEL BEHIND PROP. WING WALL WITH SUITABLE UNCLASSIFIED MATERIAL

RETAIN EXIST. CHANNEL

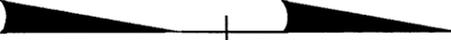


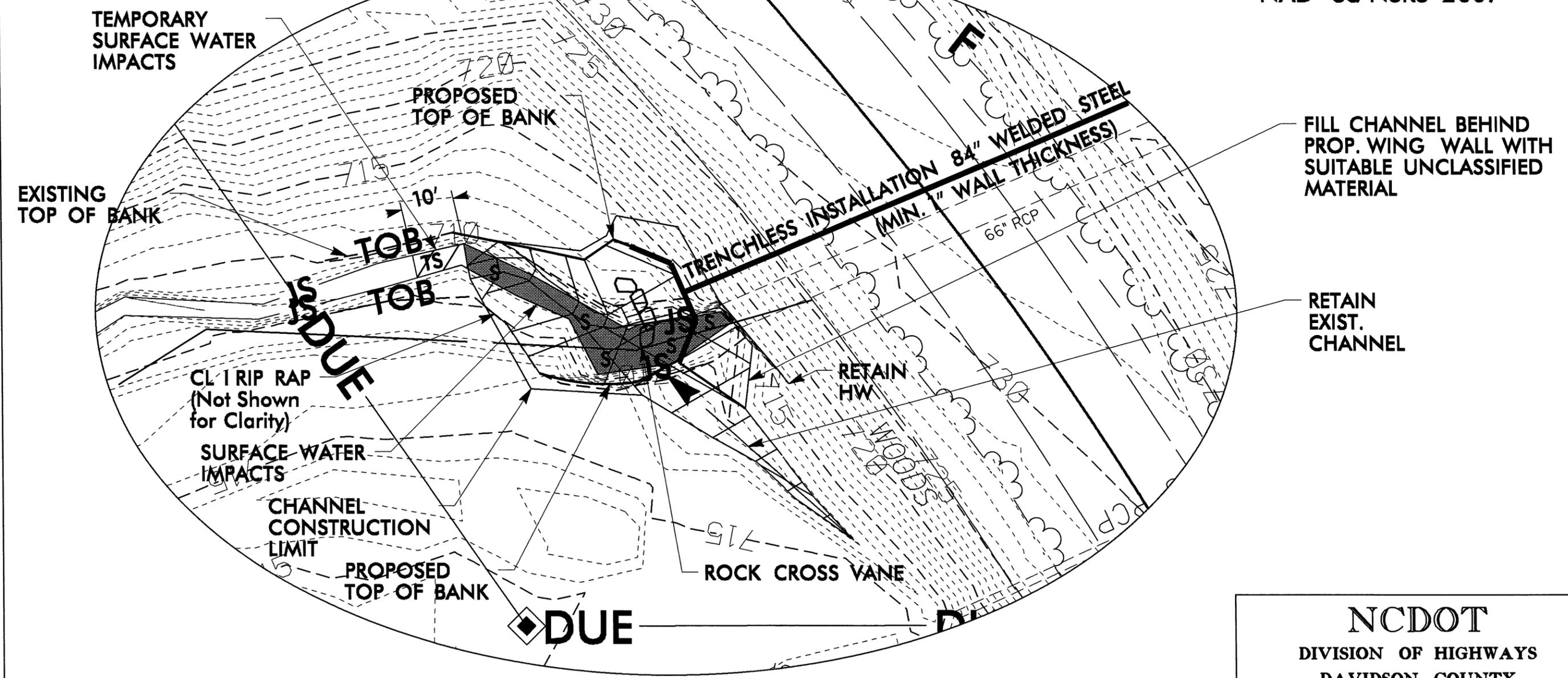
SITE 2 ENLARGEMENT

**NCDOT**  
 DIVISION OF HIGHWAYS  
 DAVIDSON COUNTY  
 PROJECT: 38391.L1 (B-4497)  
 REPLACE BRIDGE 39  
 OVER US 29-70 / I-85 BUS  
 ON US 64  
 SHEET 5 OF 9 4/05/12

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

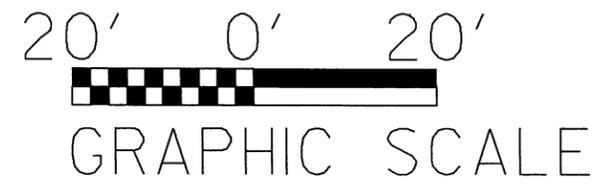
 DENOTES IMPACTS IN SURFACE WATER

  
 NAD 83/NSRS 2007



FILL CHANNEL BEHIND PROP. WING WALL WITH SUITABLE UNCLASSIFIED MATERIAL

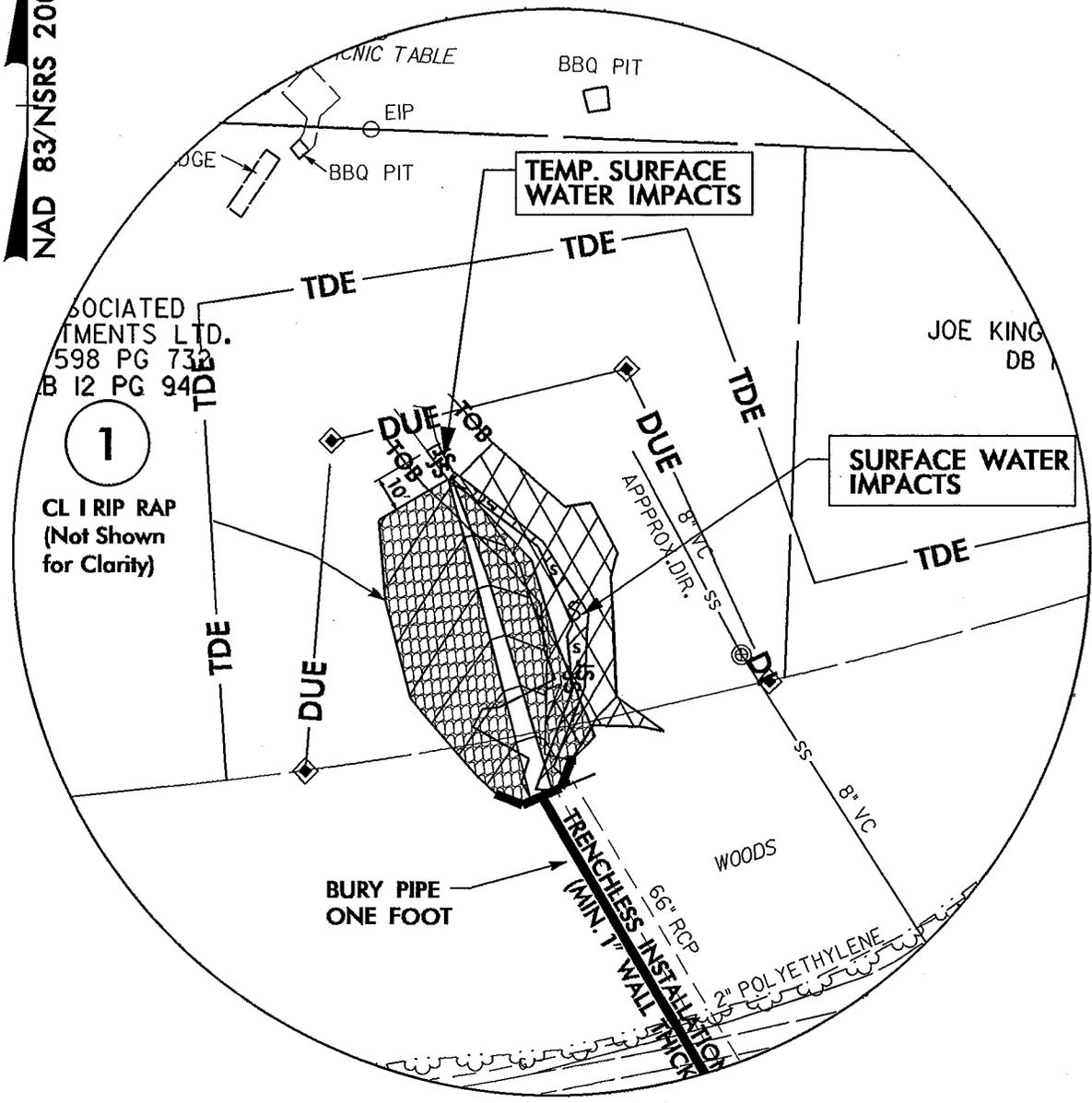
RETAIN EXIST. CHANNEL



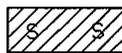
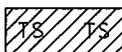
SITE 2 ENLARGEMENT

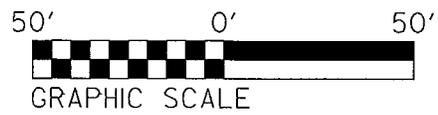
**NCDOT**  
 DIVISION OF HIGHWAYS  
 DAVIDSON COUNTY  
 PROJECT: 38391.1.1 (B-4497)  
 REPLACE BRIDGE 39  
 OVER US 29-70 / I-85 BUS  
 ON US 64  
 SHEET 6 OF 9 4/05/12

NAD 83/NRS 2007



# SITE 1 ENLARGEMENT

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER



**NCDOT**  
 DIVISION OF HIGHWAYS  
 DAVIDSON COUNTY  
 PROJECT: 38391.1.1 (B-4497)  
 REPLACE BRIDGE 39  
 OVER US 29-70 / I-85 BUS  
 ON US 64

*Revised*

SHEET 7 OF 9

05 / 09 / 2012

**PROPERTY OWNERS**  
**NAMES AND ADDRESSES**

<b>PARCEL NO.</b>	<b>NAMES</b>	<b>ADDRESSES</b>
<b>1</b>	<b>Associated Investments LTD.</b>	<b>P.O. Box 1608 Columbia SC 29202-1608</b>
<b>2</b>	<b>National Industries of Lexington</b>	<b>400 National Blvd Lexington NC 27292</b>

**NCDOT**  
**DIVISION OF HIGHWAYS**  
**DAVIDSON COUNTY**  
**PROJECT: 38391.1.1 (B-4497)**  
**REPLACE BRIDGE 39**  
**OVER US 29-70 / I-85 BUS**  
**ON US 64**  
**SHEET 8 OF 9** **12/21/11**



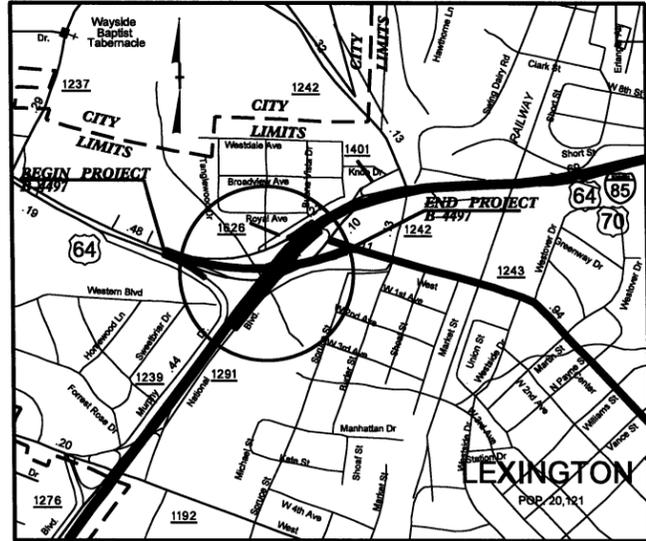
09/08/99

31-OCT-2011 14:49 R:\Roadway\Projects\B-4497\_rdy\_tsh.dgn \$\$\$USERNAME\$\$\$

**TIP PROJECT: B-4497**

**CONTRACT:**

See Sheet 1-A For Index of Sheets



**VICINITY MAP**  
SEE SHEETS 2-J & 2-K FOR OFF-SITE DETOURS

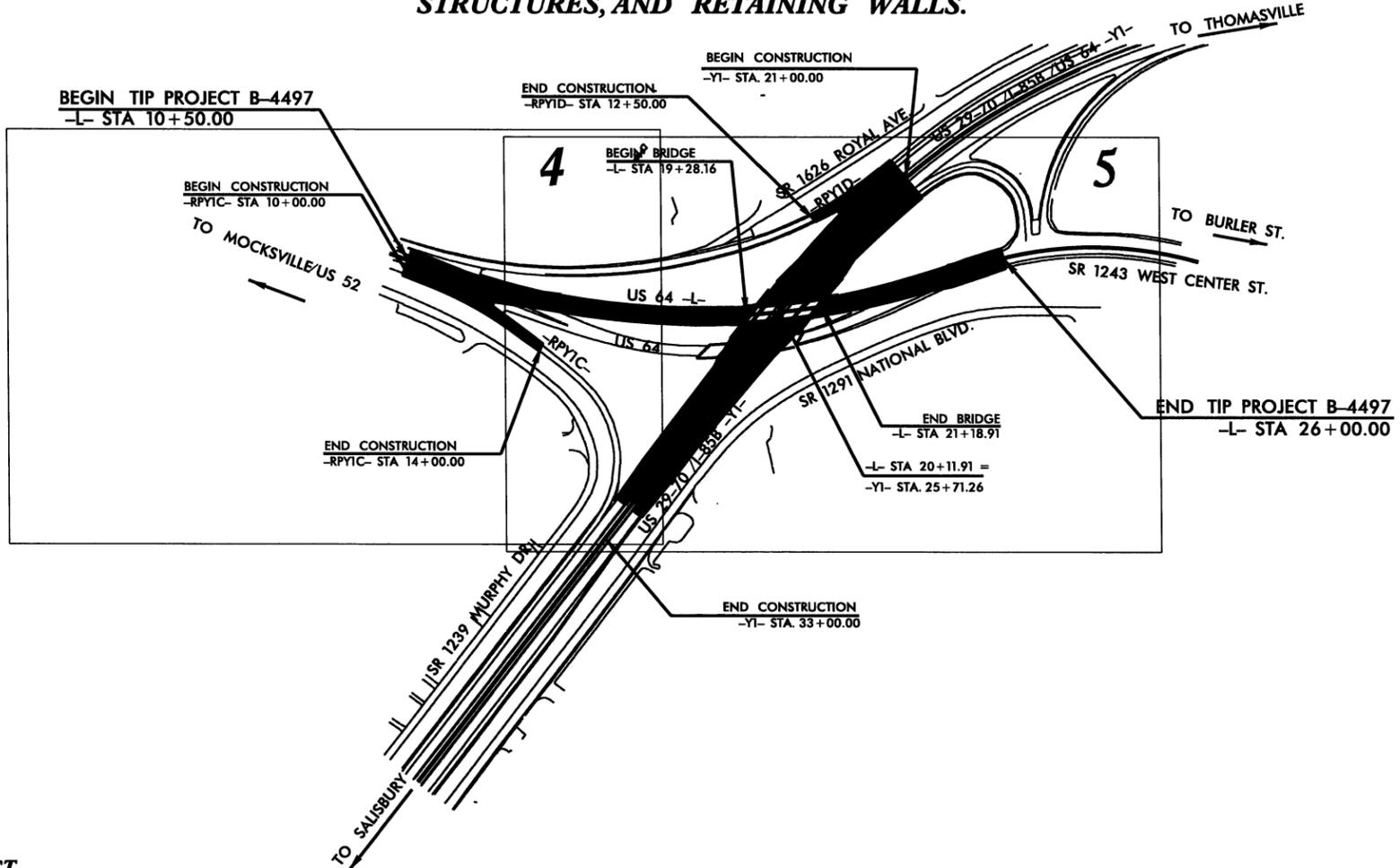
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**DAVIDSON COUNTY**

**LOCATION: REPLACE BRIDGE 39 OVER US 29-70 / I-85BUS ON US 64**

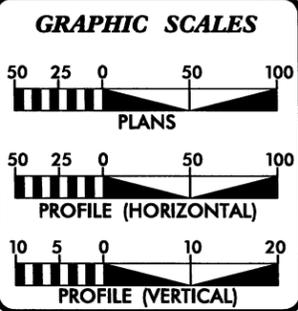
**TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURES, AND RETAINING WALLS.**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4497	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38391.1.1	BRSTP-64(80)	P.E.	
38391.2.1	BRSTP-64(80)	RWUTIL	



**THERE IS CONTROL OF ACCESS ON THIS PROJECT.**  
**THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF LEXINGTON.**  
**CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.**

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION



**DESIGN DATA**

ADT 2012 =	22,040
ADT 2035 =	38,600
DHV =	10 %
D =	55 %
T =	17 % *
V =	50 MPH
ARTERIAL	
* TTST 12 DUAL 5	
REGIONAL TIER	

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-4497 =	0.258
LENGTH OF STRUCTURE TIP PROJECT B-4497 =	0.036
TOTAL LENGTH OF ROADWAY TIP PROJECT B-4497 =	0.294

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

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: NOVEMBER 1, 2011	ANTHONY A. HOUSER, PE PROJECT ENGINEER
LETTING DATE: NOVEMBER 20, 2012	JASON TALLEY, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER	SIGNATURE: _____
ROADWAY DESIGN ENGINEER	SIGNATURE: _____
STATE HIGHWAY DESIGN ENGINEER	SIGNATURE: _____

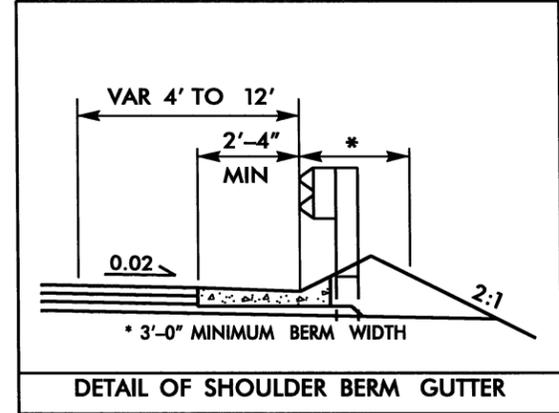
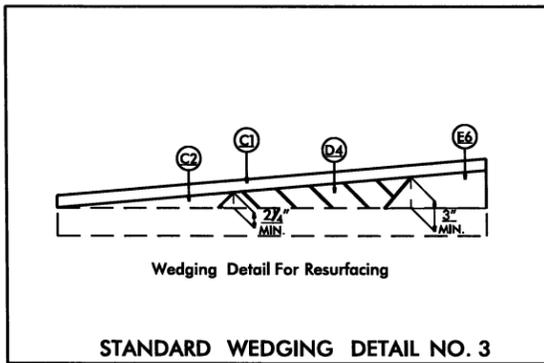
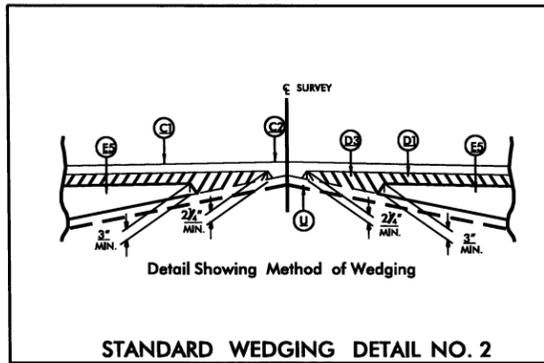
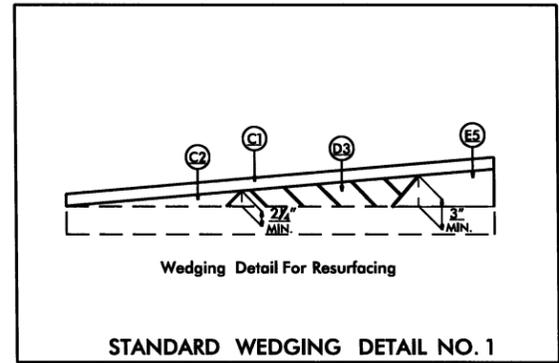
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

6/2/99

PROJECT REFERENCE NO. <b>B-4497</b>	SHEET NO. <b>2</b>
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

<b>PAVEMENT SCHEDULE</b> FINAL PAVEMENT DESIGN			
<b>C1</b>	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	<b>E4</b>	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
<b>C2</b>	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	<b>E5</b>	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
<b>D1</b>	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	<b>E6</b>	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
<b>D2</b>	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	<b>R_</b>	CONCRETE BARRIER
<b>D3</b>	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/4" IN DEPTH OR GREATER THAN 4" IN DEPTH.	<b>T_</b>	EARTH MATERIAL.
<b>D4</b>	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/4" IN DEPTH OR GREATER THAN 4" IN DEPTH.	<b>U_</b>	EXISTING PAVEMENT.
<b>E1</b>	PROP. APPROX. 10" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	<b>W1</b>	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL No. 1__)
<b>E2</b>	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	<b>W2</b>	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL No. 2__)
<b>E3</b>	PROP. APPROX. 10" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	<b>W3</b>	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL No. 3__)

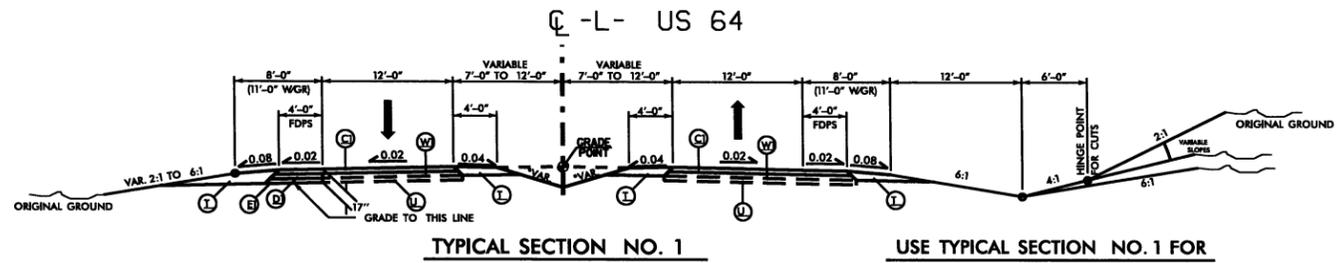


- L- STA. 14+50.00 TO -L- STA. 19+14.95 LT
- L- STA. 21+70.40 TO -L- STA. 24+60.00 LT
- L- STA. 24+50.00 TO -L- STA. 25+50.00 LT
- Y1- STA. 25+87.67 TO -L- STA. 29+00.00 LT
- Y1- STA. 25+15.00 TO -L- STA. 25+42.31 RT

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6/2/99

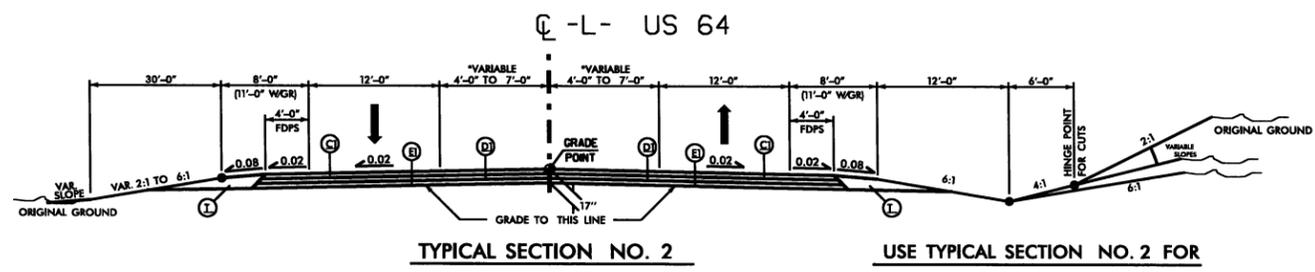
PROJECT REFERENCE NO. <b>B-4497</b>	SHEET NO. <b>2-A</b>
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



**TYPICAL SECTION NO. 1**

**USE TYPICAL SECTION NO. 1 FOR**

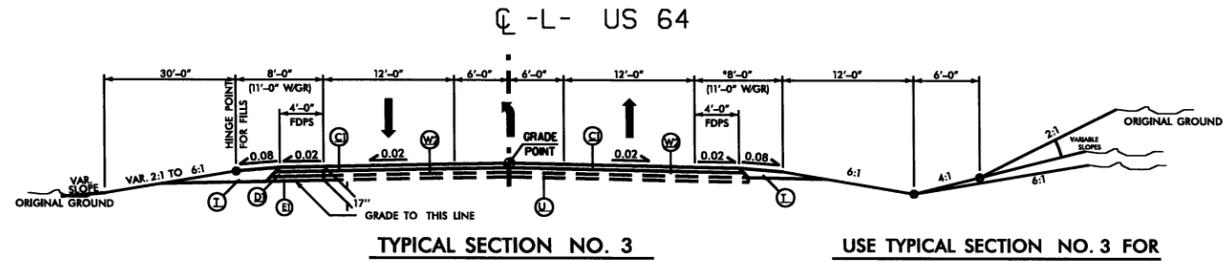
-L- STA. 10+50.00 TO -L- STA. 13+00.00  
\*SEE CROSS-SECTIONS FOR MEDIAN DITCH TRANSITION



**TYPICAL SECTION NO. 2**

**USE TYPICAL SECTION NO. 2 FOR**

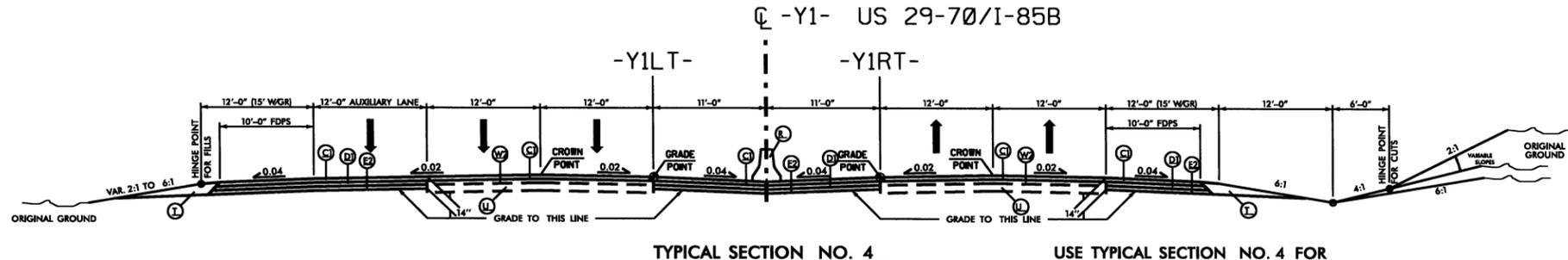
-L- STA. 13+00.00 TO -L- STA. 19+28.16 (BEGIN BRIDGE)  
-L- STA. 21+18.91 (END BRIDGE) TO -L- STA. 23+50.00  
\*SEE PLANS FOR 5' MONO CONC ISLAND LOCATION & LEFT TURN LANE  
\*SEE SHEET NOS. 2, 4 & 5 FOR SHOULDER BERM GUTTER LOCATION



**TYPICAL SECTION NO. 3**

**USE TYPICAL SECTION NO. 3 FOR**

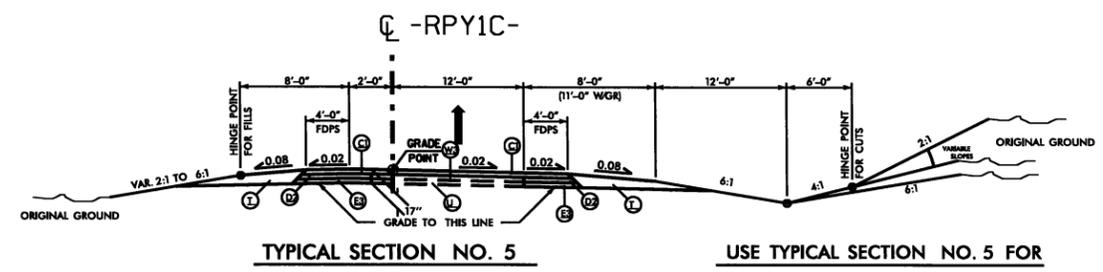
-L- STA. 23+50.00 TO -L- STA. 26+00.00  
\*SEE SHEET NOS. 2, 4 & 5 FOR SHOULDER BERM GUTTER LOCATION



**TYPICAL SECTION NO. 4**

**USE TYPICAL SECTION NO. 4 FOR**

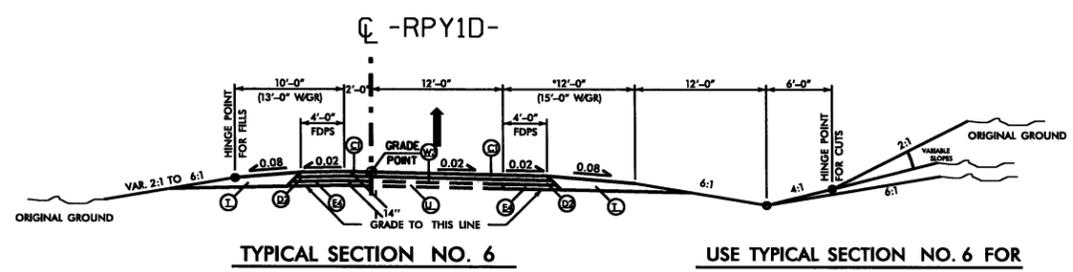
-Y1- STA. 21+00.00 TO -Y1- STA. 32+00.00  
\*SEE CROSS-SECTIONS FOR MEDIAN DITCH TRANSITION  
\*SEE SHEET NOS. 2, 5 FOR SHOULDER BERM GUTTER LOCATION



**TYPICAL SECTION NO. 5**

**USE TYPICAL SECTION NO. 5 FOR**

-RPY1C- STA. 10+00.00 TO -RPY1C- STA. 14+00.00



**TYPICAL SECTION NO. 6**

**USE TYPICAL SECTION NO. 6 FOR**

-RPY1D- STA. 10+00.00 TO -RPY1D- STA. 12+50.00

SEE SHEET 2 FOR FULL PAVEMENT SCHEDULE WITH PLACEMENT INSTRUCTIONS

PAVEMENT SCHEDULE (PRELIMINARY PAVEMENT DESIGN)	
C1	3" S9.5C
C2	VAR. S9.5C
D1	4" I19.5C
D2	4" I19.5B
D3	VAR. I19.0C
D4	VAR. I19.0B
E1	10" B25.0C
E2	7" B25.0C
E3	10" B25.0B
E4	7" B25.0B
E5	VAR. B25.0C
E6	VAR. B25.0B
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W1	WEDGING
W2	WEDGING
W3	WEDGING

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31-CCT-2011.k150  
 B:\PROJECTS\4497\B-4497\_r.dwg - typ.dgn

PROJECT REFERENCE NO. <b>B-4497</b>	SHEET NO. <b>2-B</b>
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

DESIGN DATA	-L-	-Y1-
2012 ADT	22,040	20,200
2035 ADT	38,600	34,000
DHV (%)	10	10
D (%)	55	60
DUAL (%)	5	4
TTST (%)	12	5
V (MPH)	50	60
FUNC CLASS	ARTERIAL	ARTERIAL

MINIMUM VERTICAL CLEARANCE = 16'-6"

× BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT      \*\* SET UP TO ACCOMMODATE FUTURE LANE

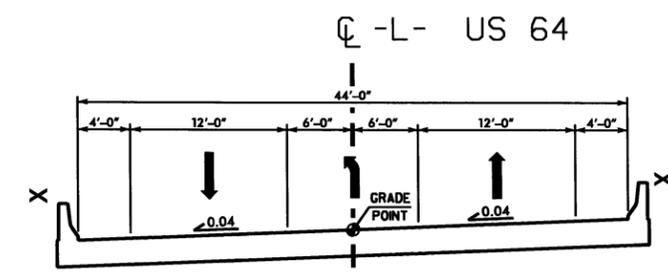
\* SINGLE FACED PRECAST CONCRETE BARRIER (SEE STD. 857.01)

▤ VERTICAL ABUTMENT WALL DETERMINED BY GEOTECHNICAL ENGINEERING UNIT

- NOTES:**
1. SEE SHEET 5 FOR PLAN VIEW
  2. SEE SHEET 2-A FOR -L- TYPICAL SECTION
  3. SEE SHEET 2-A FOR -Y1- TYPICAL SECTION

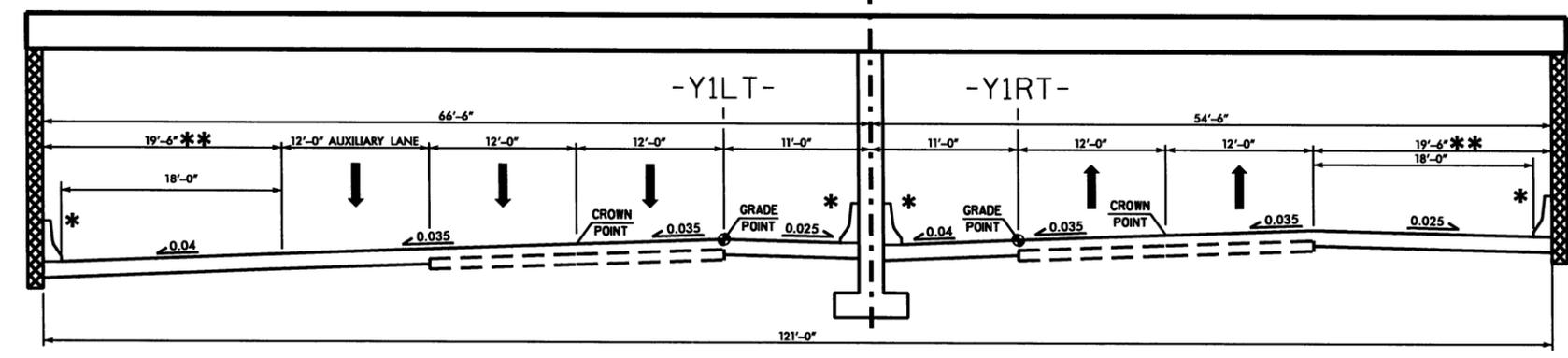
### -L- STRUCTURE

-L- (US 64) STRUCTURE OVER -Y1- (US 29-701-85B)



**TYPICAL SECTION ON STRUCTURE**  
 -L- STA. 19+28.16 TO -L- STA. 21+18.91

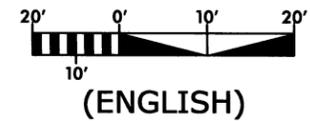
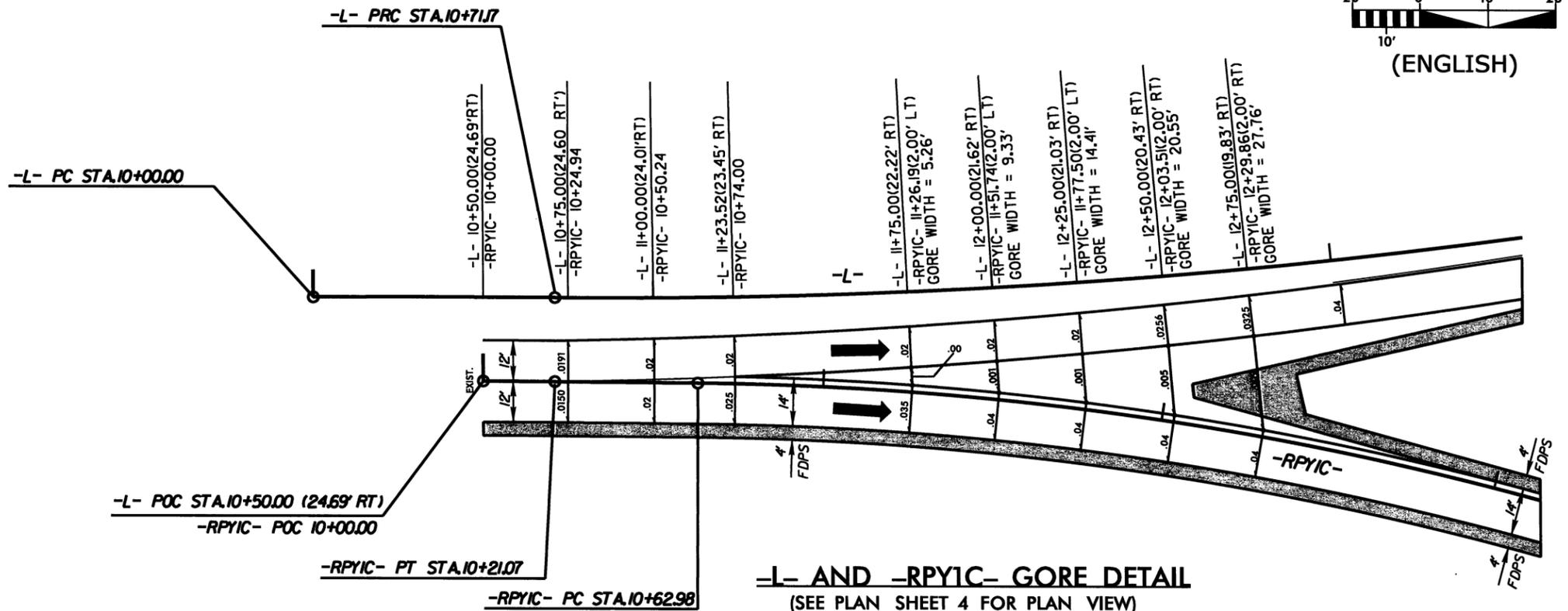
### Y1- US 29-701-85B



**DETAIL OF ROADWAY UNDER PROPOSED STRUCTURE**

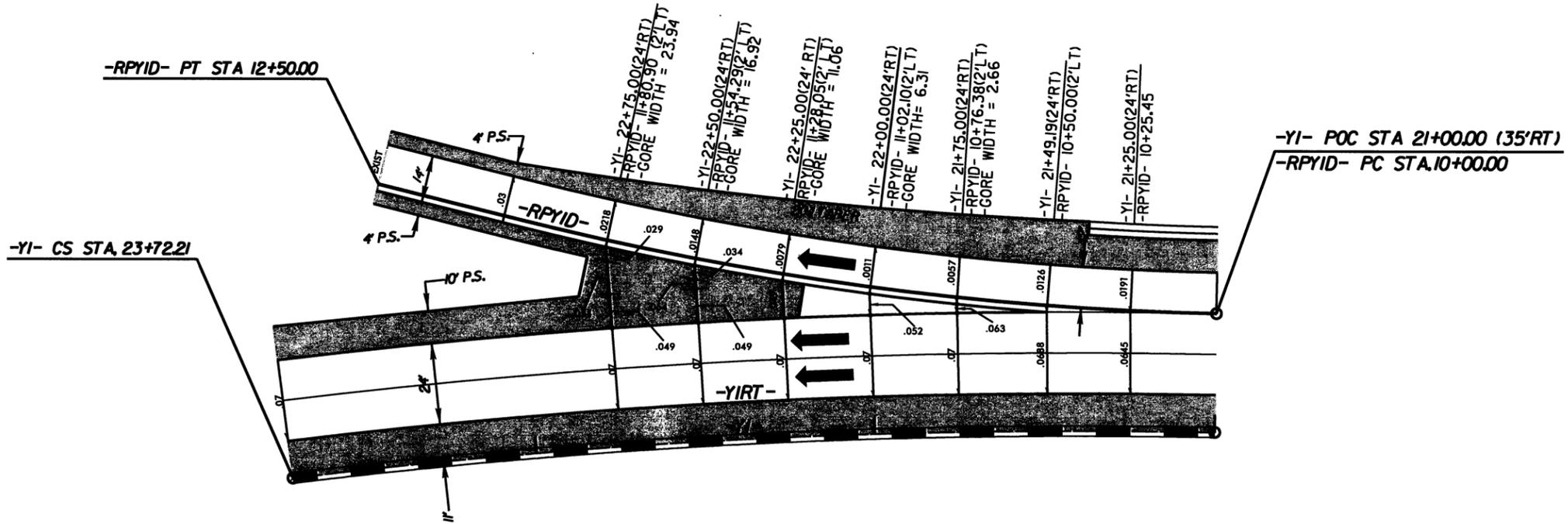
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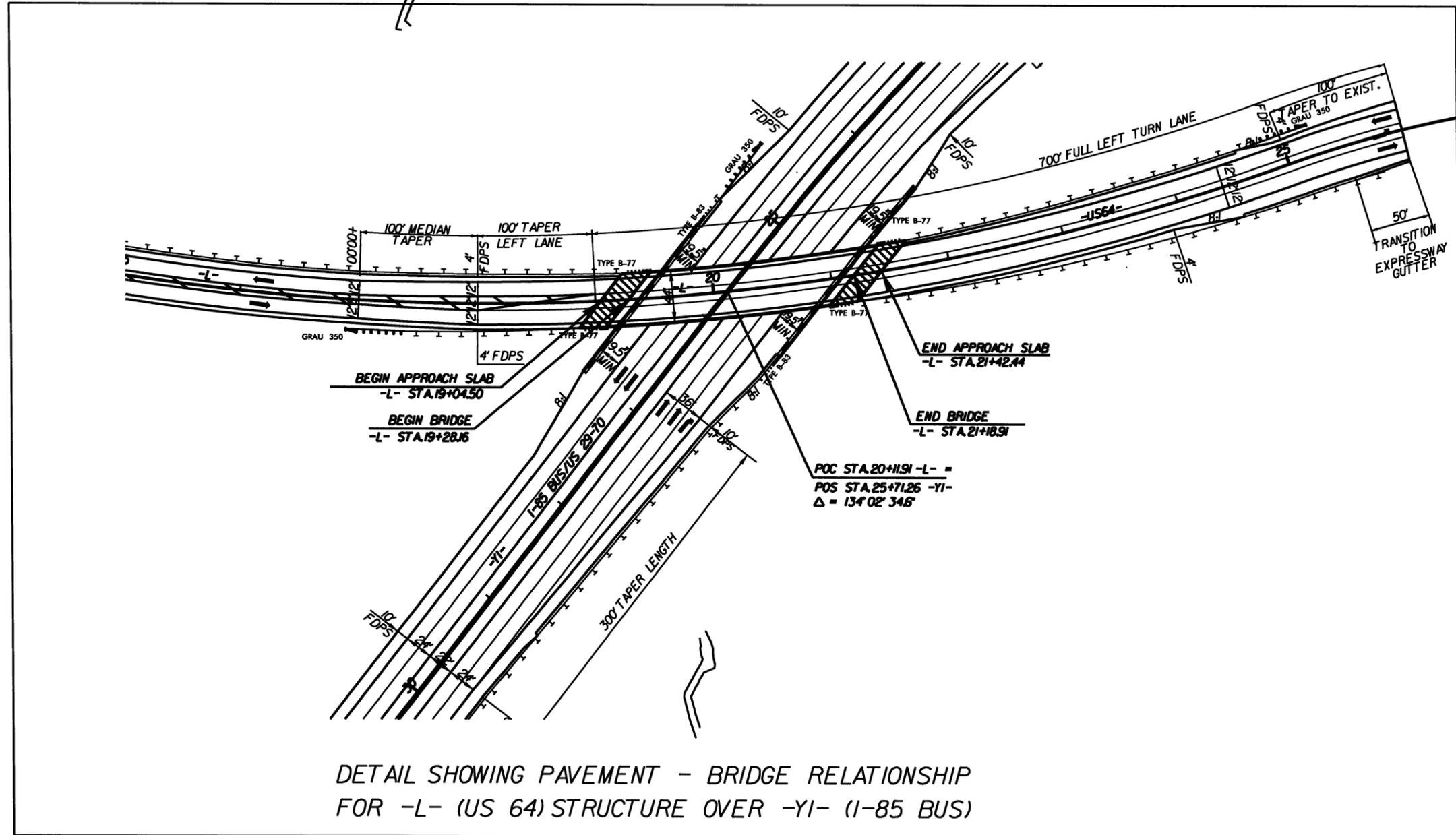
PROJECT REFERENCE NO. <b>B-4497</b>	SHEET NO. <b>2-C</b>
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

**-L- AND -RPYIC- GORE DETAIL**  
(SEE PLAN SHEET 4 FOR PLAN VIEW)



**-YI- AND -RPYID- GORE DETAIL**  
(SEE PLAN SHEET 5 FOR PLAN VIEW)

PROJECT REFERENCE NO. <b>B-4497</b>	SHEET NO. <b>2-D</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



DETAIL SHOWING PAVEMENT - BRIDGE RELATIONSHIP  
FOR -L- (US 64) STRUCTURE OVER -YI- (I-85 BUS)

FOR STRUCTURE PLAN VIEW, SEE SHEET NO. 5  
 FOR STRUCTURE TYPICAL SECTION, SEE SHEET NO. 2-B  
 FOR WALL PLANS, SEE SHEET NO. W-? THRU W-?  
 FOR STRUCTURE PLANS, SEE SHEET NO. S-? THRU S-?

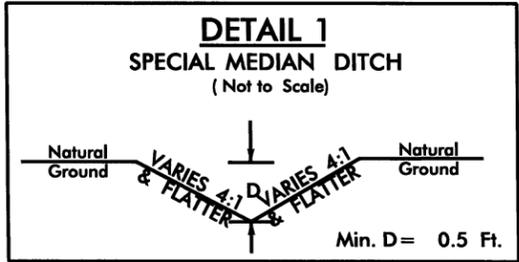
REVISIONS

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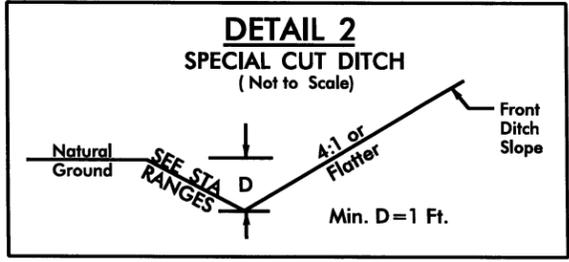
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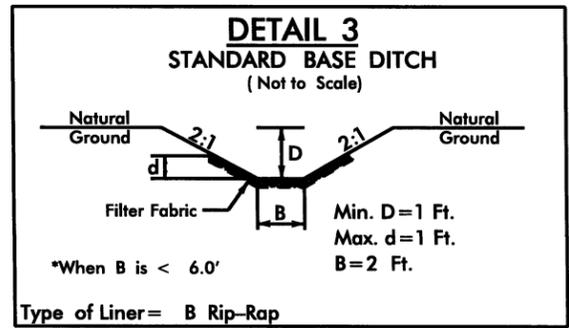
PROJECT REFERENCE NO. <b>B-4497</b>	SHEET NO. <b>2-E</b>
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



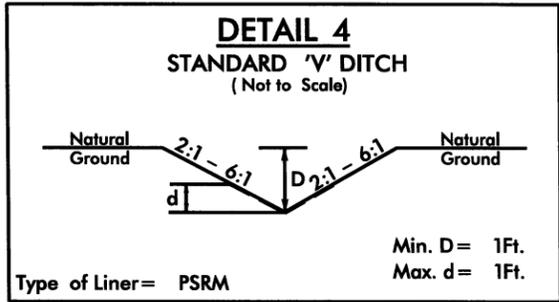
FROM -L- STA. 10+50 TO STA. 12+00 MEDIAN  
 FROM -Y1- STA. 31+00 TO STA. 32+50 MEDIAN



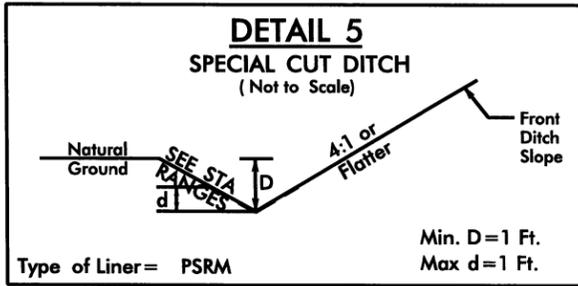
FROM -L- STA. 11+00 TO STA. 13+50 RT BACK SLOPE 6:1  
 FROM -Y1- STA. 23+50 TO STA. 24+75 RT BACK SLOPE 4:1  
 FROM -Y1- STA. 26+00 TO STA. 26+50 LT BACK SLOPE 6:1



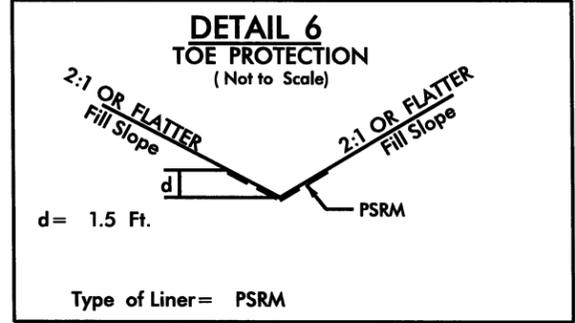
Type of Liner = B Rip-Rap  
 FROM -L- STA. 13+50 TO STA. 14+35 RT



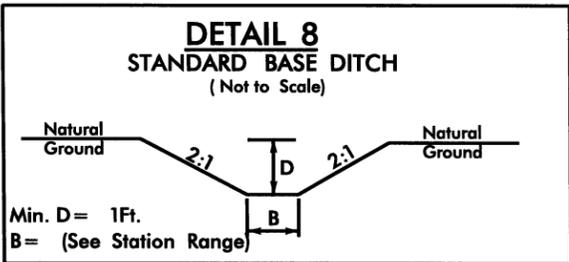
Type of Liner = PSRM  
 FROM -L- STA. 14+00 TO STA. 14+50 RT



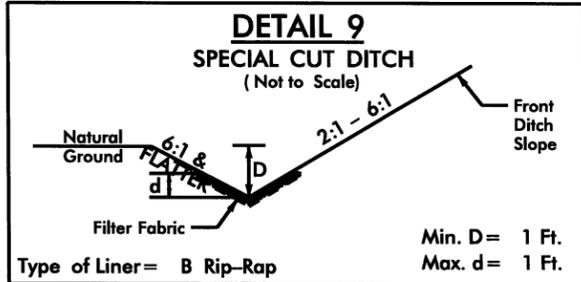
Type of Liner = PSRM  
 FROM -L- STA. 12+50 TO STA. 14+50 LT BACK SLOPE 4:1



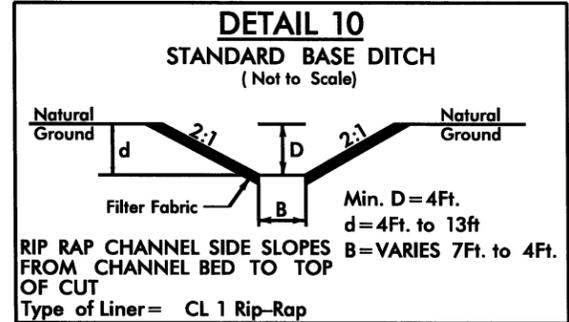
FROM -L- STA. 14+50 TO STA. 19+00 LT



AT -L- STA. 24+56 LT, B=2', DDE=11CY



Type of Liner = B Rip-Rap  
 FROM -Y1- STA. 26+50 TO STA. 26+80 LT

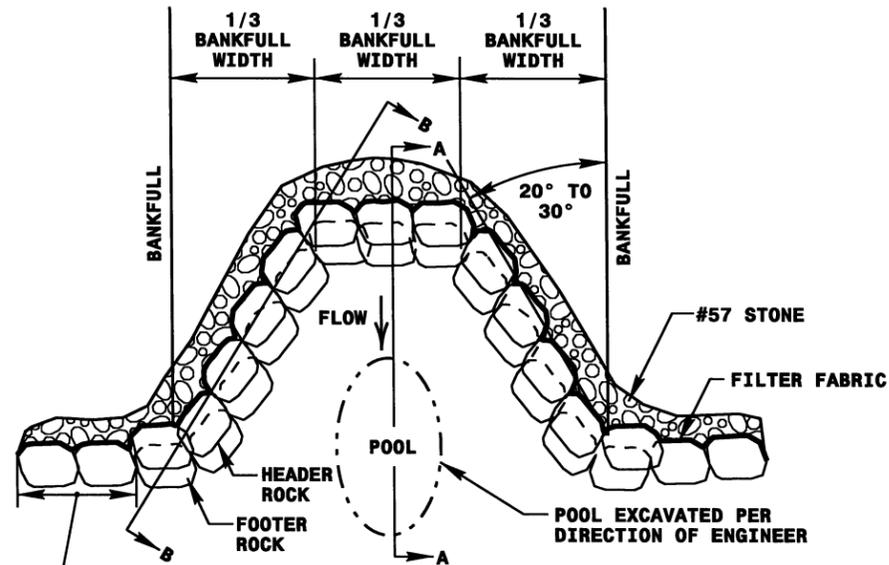


AT -Y1- STA. 28+25 LT B=VARIES 4' to 7'  
 AT -L- STA. 17+27 LT B=VARIES 4' to 7'

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12/15/05

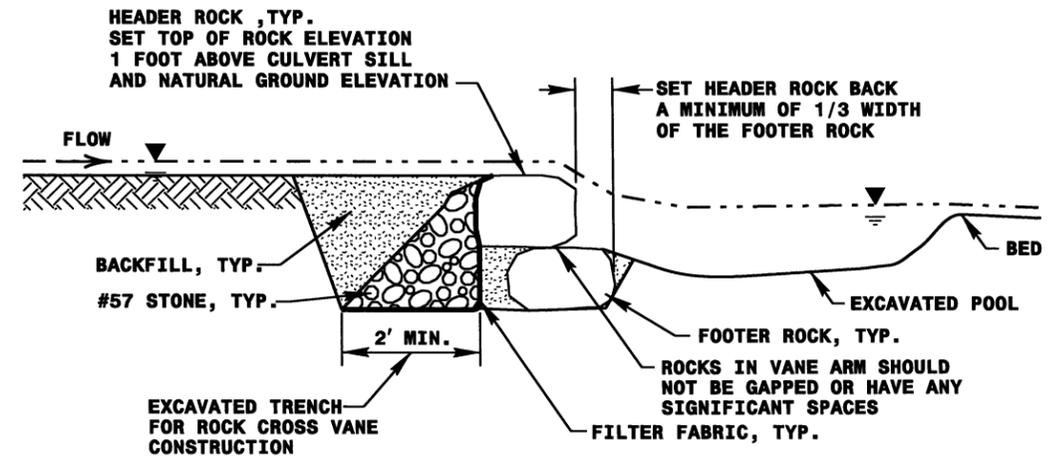
PROJECT REFERENCE NO.	SHEET NO.
B-4497	2-F
BW SHEET NO.	HYDRAULICS ENGINEER



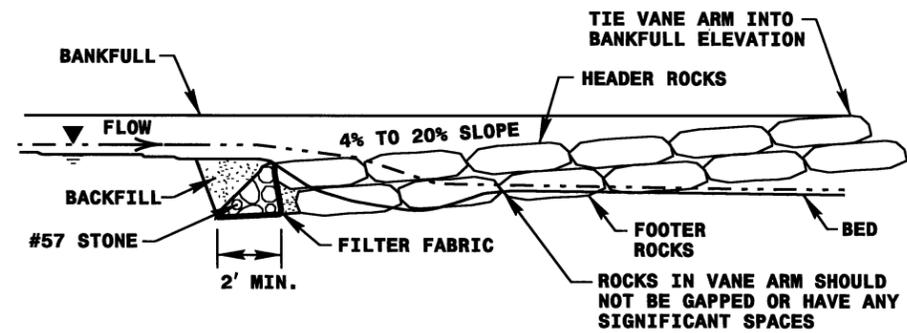
**PLAN VIEW**

STATION	BOULDER DIMENSIONS (FT)		
	HEIGHT	LENGTH	WIDTH
ALL	2'	4'	3'

LOCATION	
CULVERT	x' DOWNSTREAM OF BARREL
-L- 18+36	6' SOUTH



**SECTION A-A**



**SECTION B-B**

- NOTES:**
1. DEEPEST PART OF POOL TO BE IN LINE WITH WHERE VANE ARM TIES INTO BANKFULL.
  2. DO NOT EXCAVATE POOL TOO CLOSE TO FOOTER BOULDERS.
  3. CLASS "A" STONE CAN BE USED TO REDUCE VOIDS BETWEEN HEADERS AND FOOTERS.
  4. COMPACT BANKFULL TO EXTENT POSSIBLE OR AT THE DIRECTION OF THE ENGINEER.
  5. POOL DEPTH SHOULD BE 2 TO 3 TIMES BANKFULL DEPTH.

**ROCK CROSS VANE DETAIL**

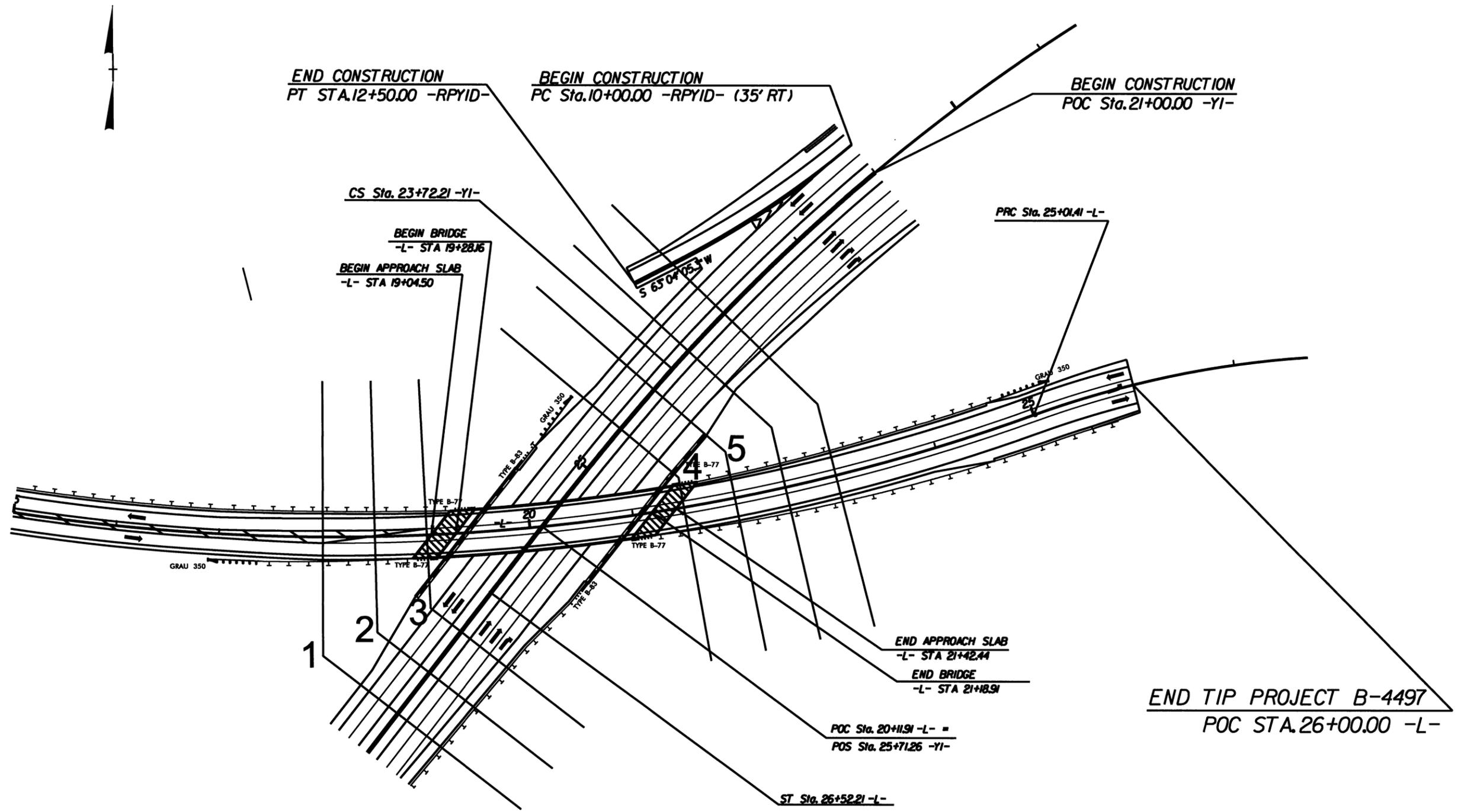
NOT TO SCALE

31:OCT-2011450...rock cross vane detail.21.dgn

5/14/99

PROJECT REFERENCE NO. <b>B-4497</b>	SHEET NO. <b>2-G</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# SHEAR POINT DIAGRAM



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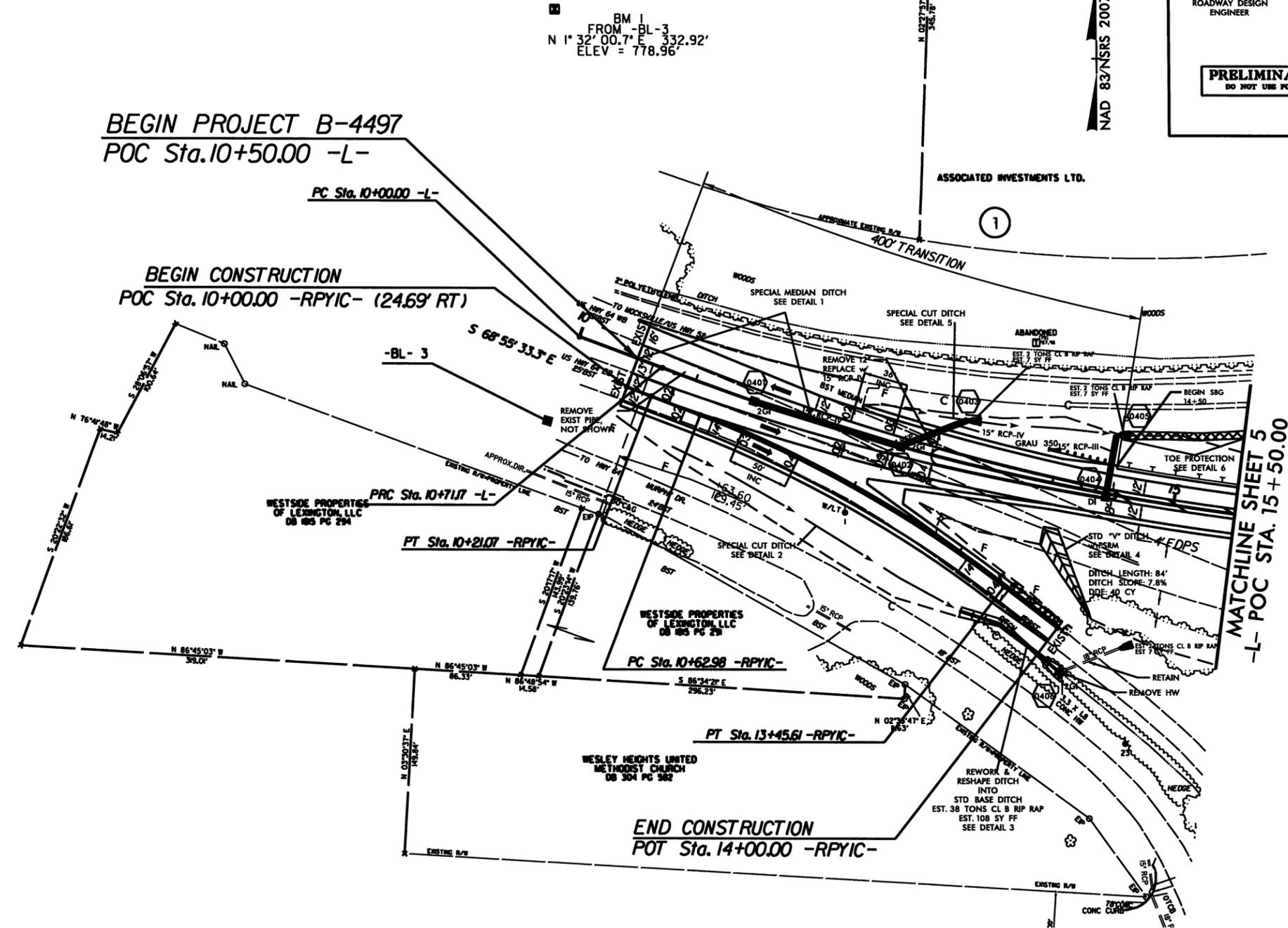


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REVISIONS

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PROJECT REFERENCE NO. <b>B-4497</b>	SHEET NO. <b>4</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



-L-		-RPYIC-	
PI Sta 10+35.59	PI Sta 18+18.41	PI Sta 10+10.53	PI Sta 12+05.29
Δ = 0° 48' 56.1 (RT)	Δ = 40° 58' 23.5 (LT)	Δ = 0° 14' 33.4 (RT)	Δ = 16° 36' 32.5 (RT)
D = 1° 08' 45.3	D = 2° 51' 53.2	D = 1° 09' 05.8	D = 5° 52' 35.4
L = 71.7	L = 1,430.23	L = 21.0	L = 282.64
T = 35.59	T = 747.24	T = 10.53	T = 142.32
R = 5,000.00	R = 2,000.00	R = 4975.31	R = 975.00
	SE = 04	SE = 04	
	INC = 36	INC = 50	

FOR DIMENSIONS, SEE SHEET 2-H  
 FOR DITCH DETAILS, SEE SHEET 2-E

 EROSION CONTROL PSM MATTING

FOR -L- PROFILE, SEE SHEET NO. 6  
 FOR -RPYIC- PROFILE, SEE SHEET NO. 6  
 FOR STRUCTURE PLANS, SEE SHEET S-? THRU S-??





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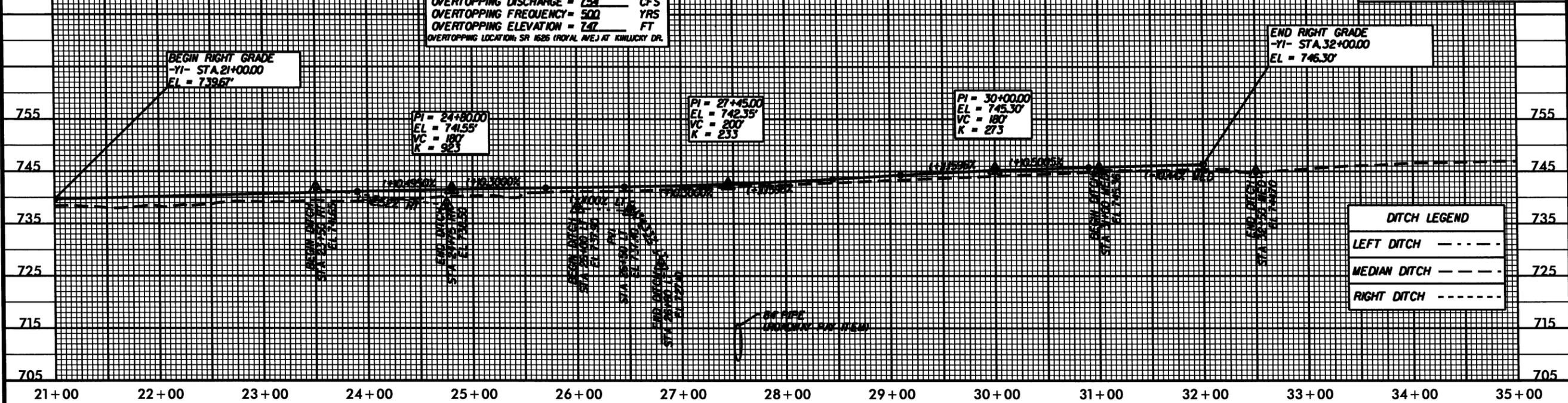
PROJECT REFERENCE NO. <b>B-4497</b>	SHEET NO. <b>7</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

**CULVERT HYDRAULIC DATA**

DESIGN DISCHARGE	= 387	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 722.9	FT
BASE DISCHARGE	= 491	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 729.2	FT
OVERTOPPING DISCHARGE	= 754	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 747	FT

OVERTOPPING LOCATION: SR 1526 (ROYAL AVE.) AT KIMLUCKY DR.

**-Y1- (RT)**  
I-85 BUS SBL



**DITCH LEGEND**

LEFT DITCH	---
MEDIAN DITCH	---
RIGHT DITCH	---

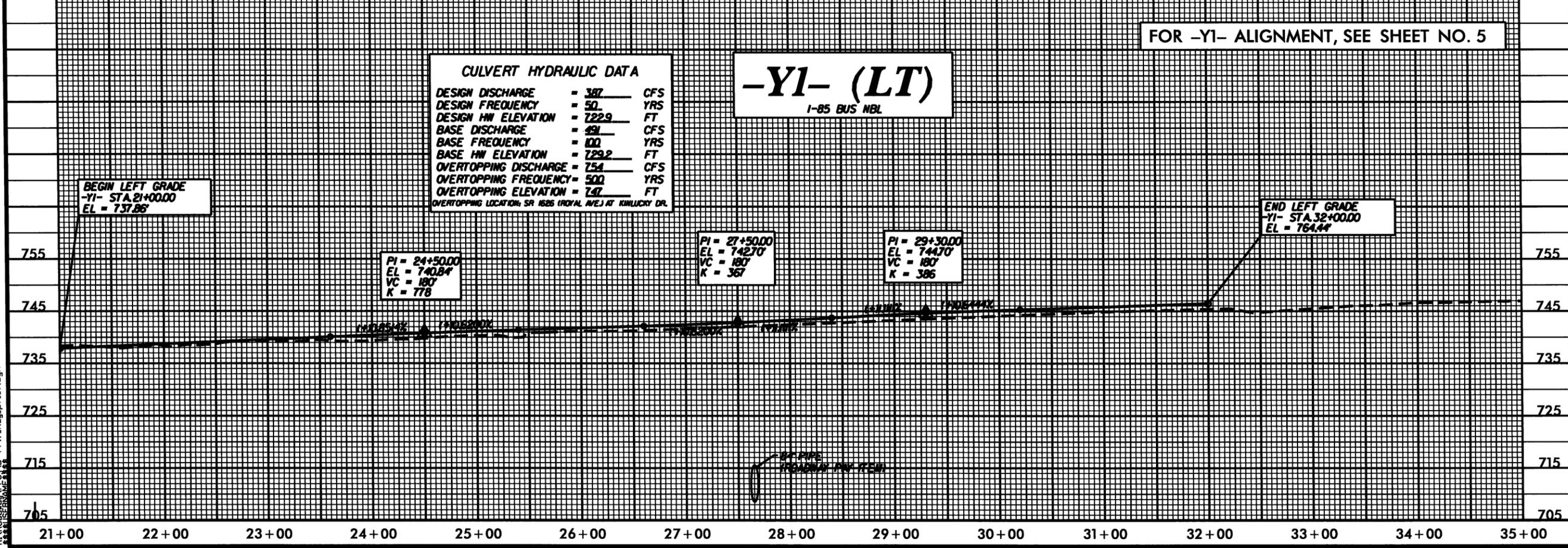
FOR -Y1- ALIGNMENT, SEE SHEET NO. 5

**CULVERT HYDRAULIC DATA**

DESIGN DISCHARGE	= 387	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 722.9	FT
BASE DISCHARGE	= 491	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 729.2	FT
OVERTOPPING DISCHARGE	= 754	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 747	FT

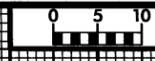
OVERTOPPING LOCATION: SR 1526 (ROYAL AVE.) AT KIMLUCKY DR.

**-Y1- (LT)**  
I-85 BUS NBL



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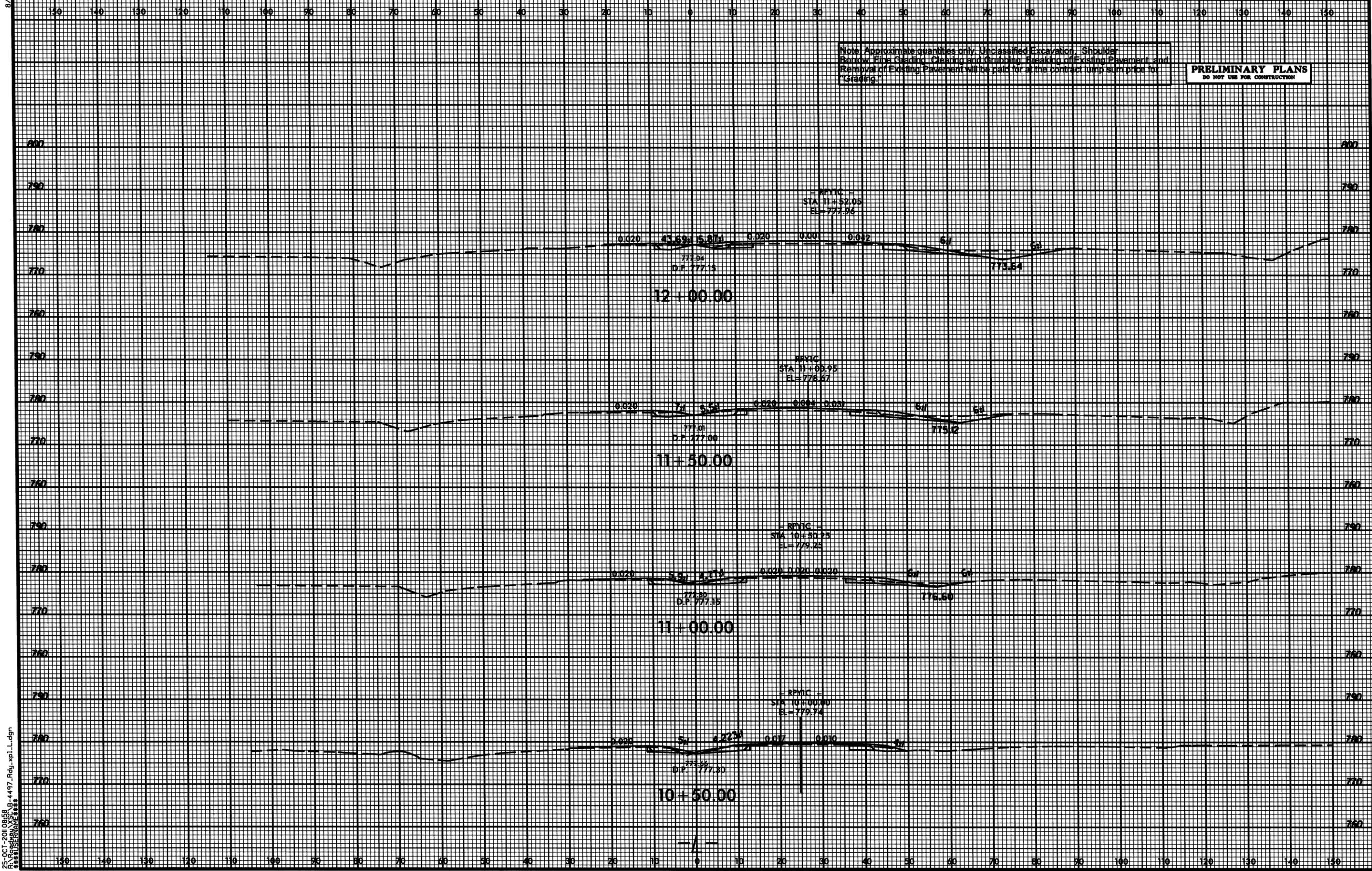
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PROJ. REFERENCE NO. B-4497 SHEET NO. X-1

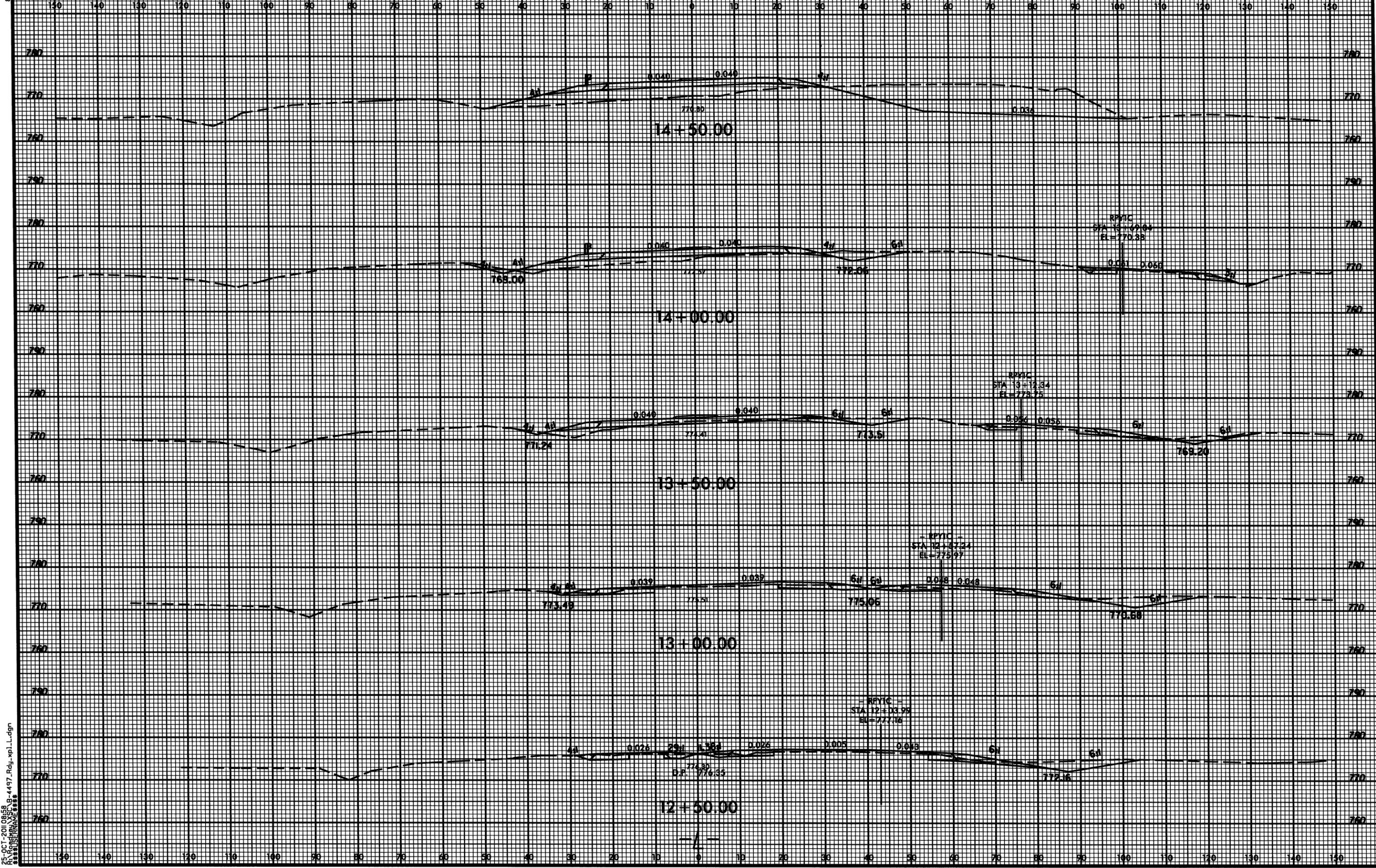
Note: Approximate quantities only. Unclassified Excavation, Shoulders, Borrow, Fine Grading, Cleaning and Grubbing, Breaking of Existing Pavement and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



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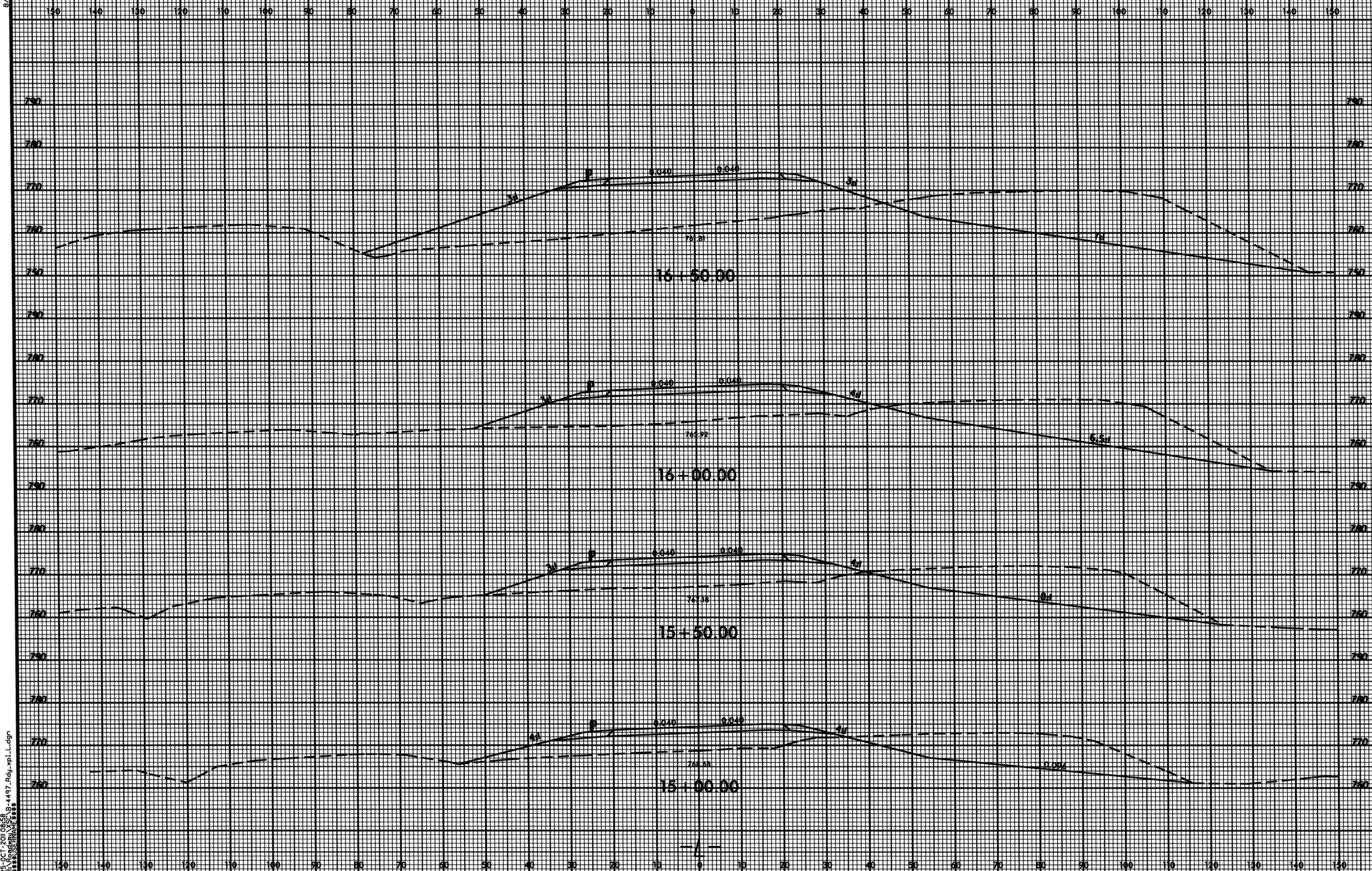


25 OCT 2010 09:58 B-4497.Rdy.wp1.L.dgn

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PROJ. REFERENCE NO. B-4497 SHEET NO. X-3

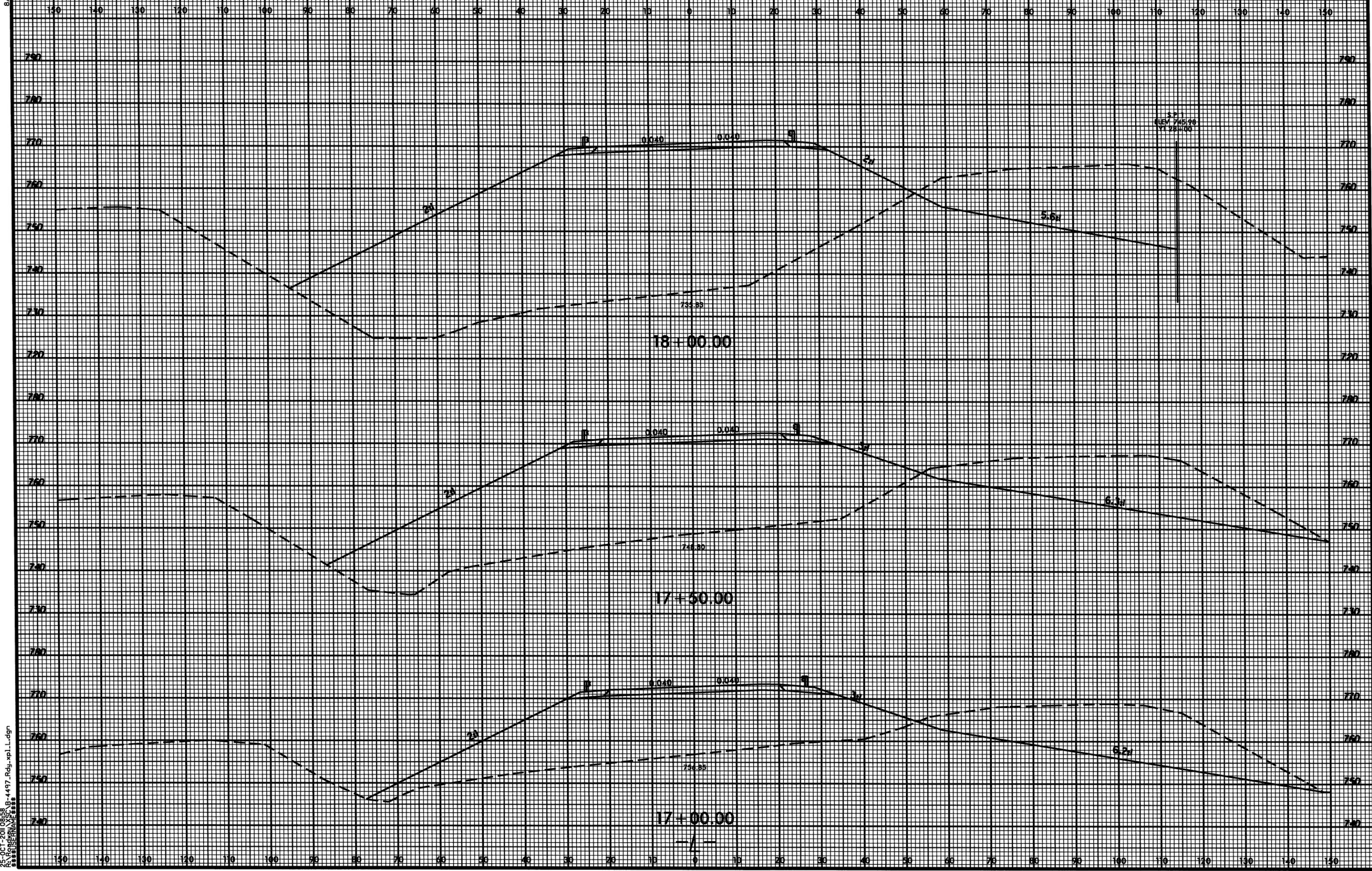


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SUBERRAME

8/23/99

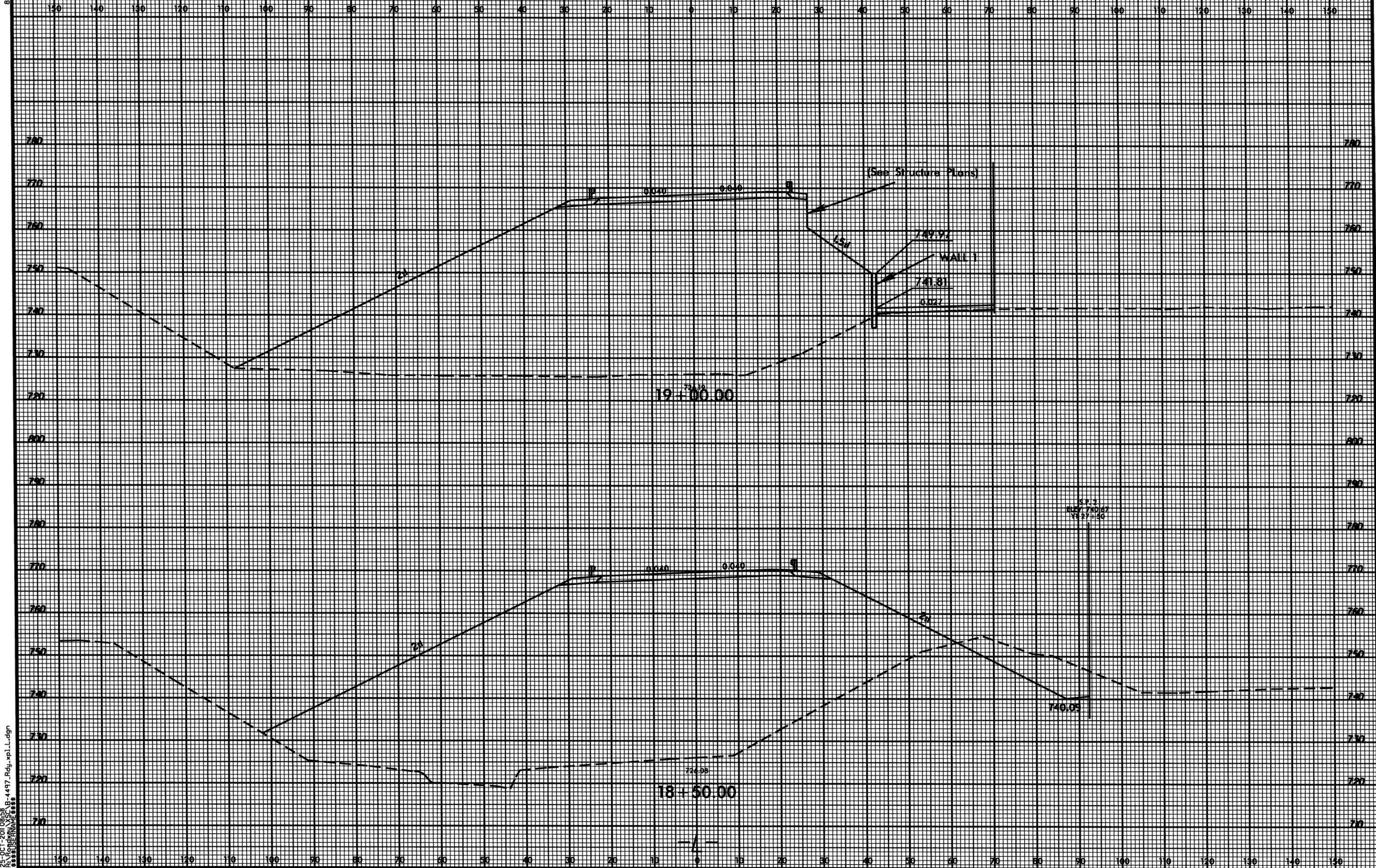


PROJ. REFERENCE NO.	SHEET NO.
B-4497	X-4



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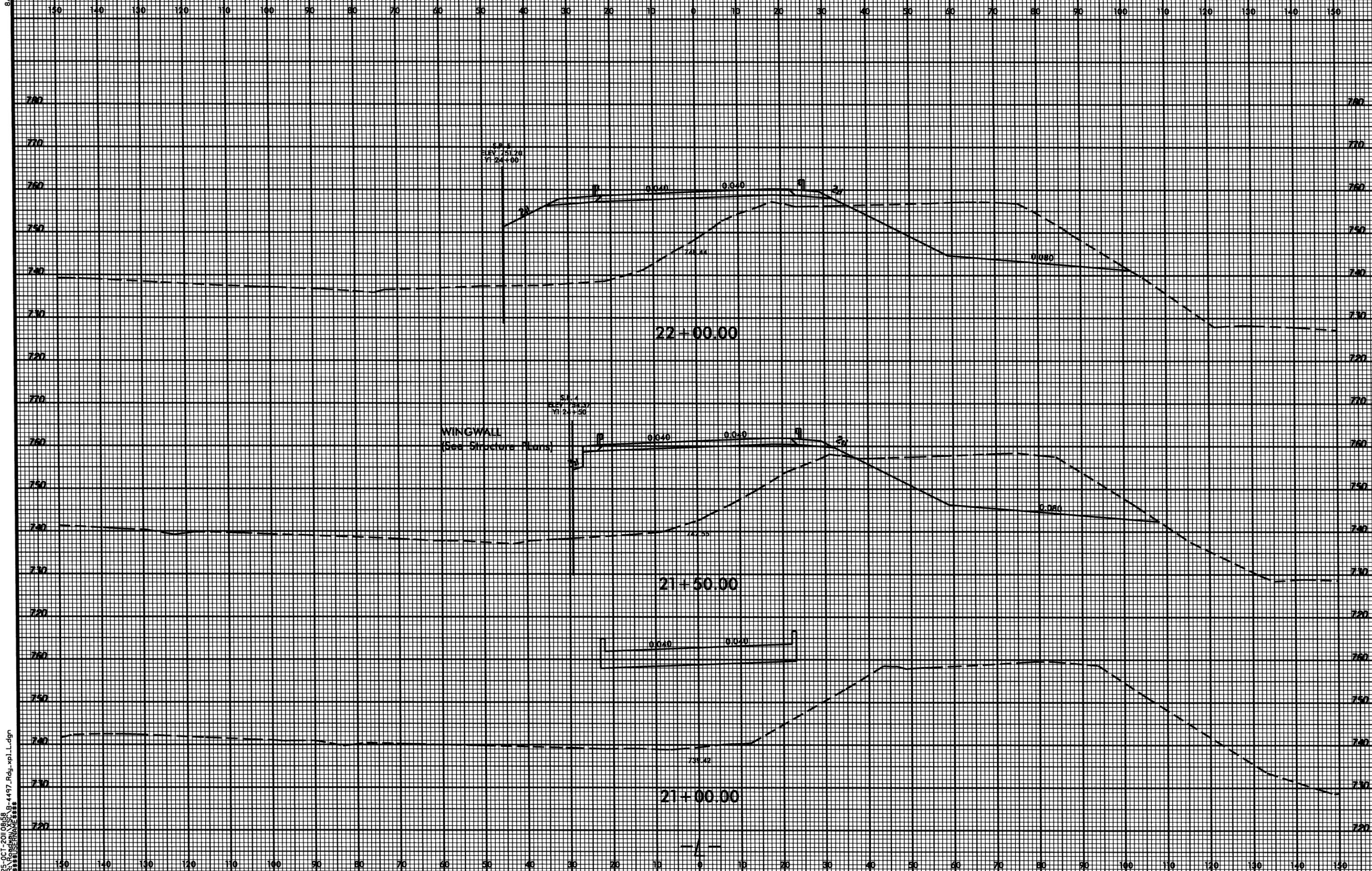
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8/23/99



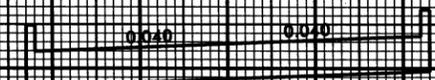
PROJ. REFERENCE NO. B-4497 SHEET NO. X-7



ST. 3  
ELEV. 751.20  
VI 24+00

ST. 4  
ELEV. 750.37  
VI 24+50

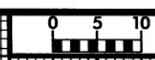
WINGWALL  
(See Structure Plans)



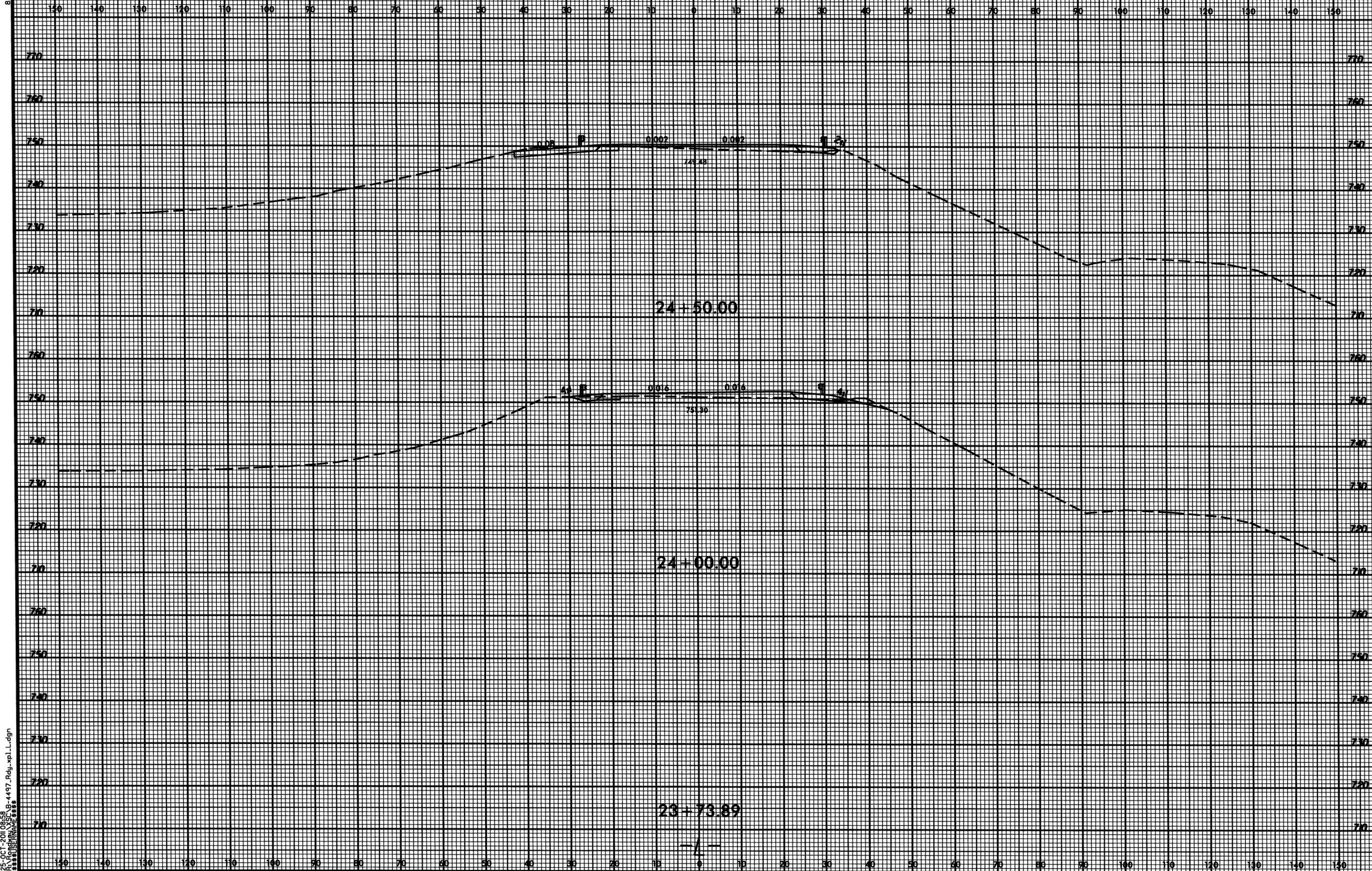
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8/23/99



PROJ. REFERENCE NO.	SHEET NO.
B-4497	X-9

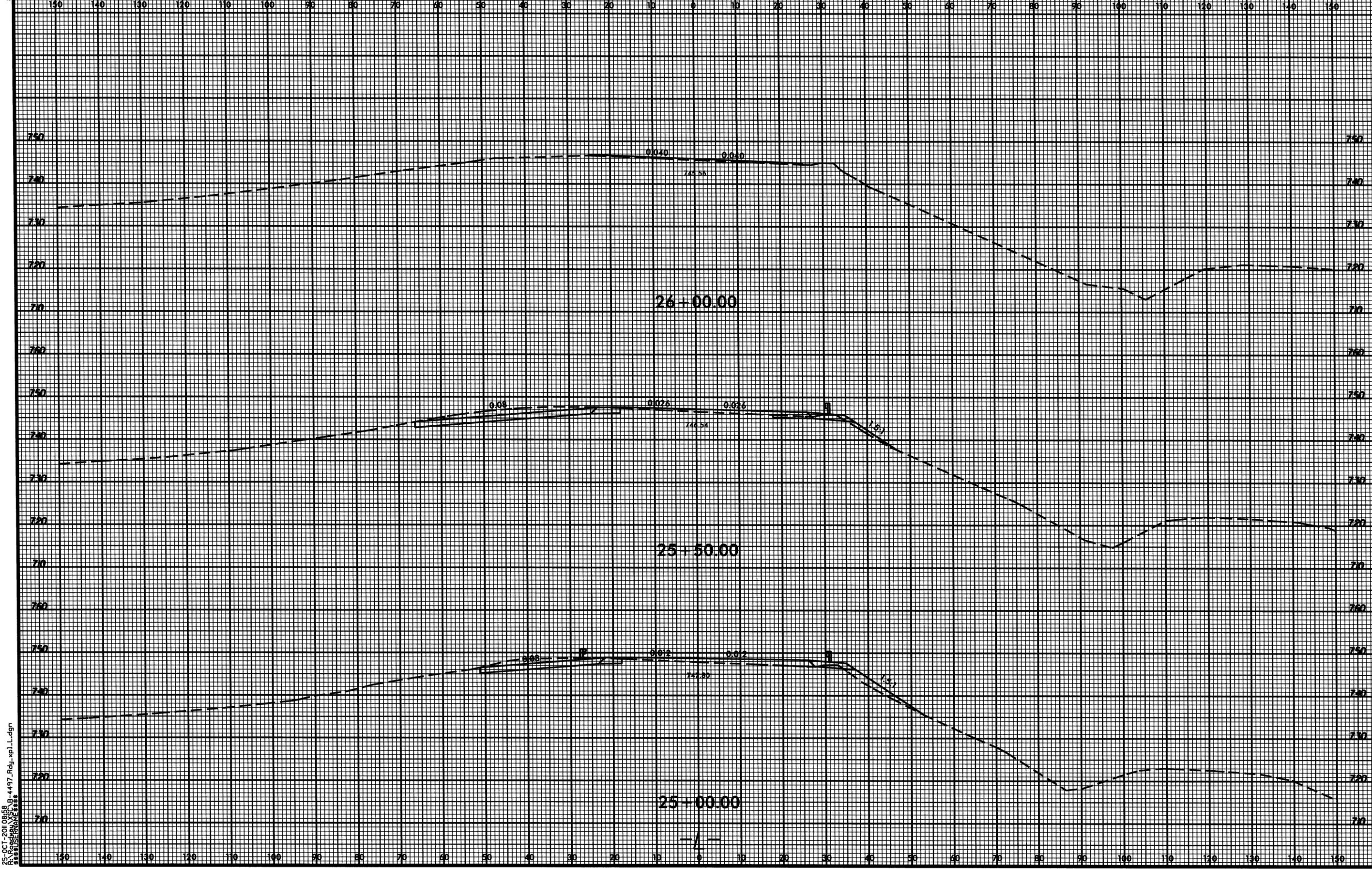


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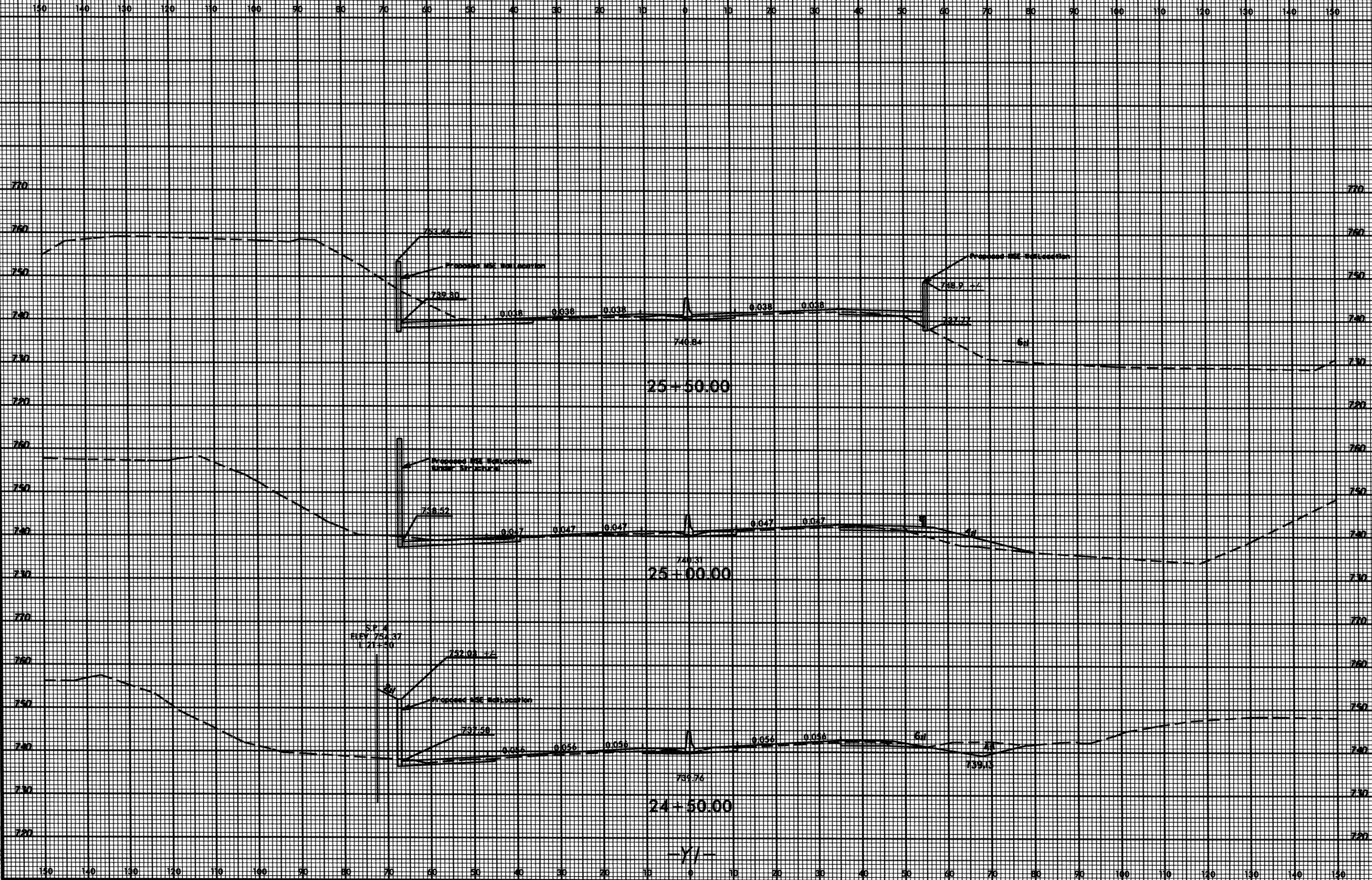




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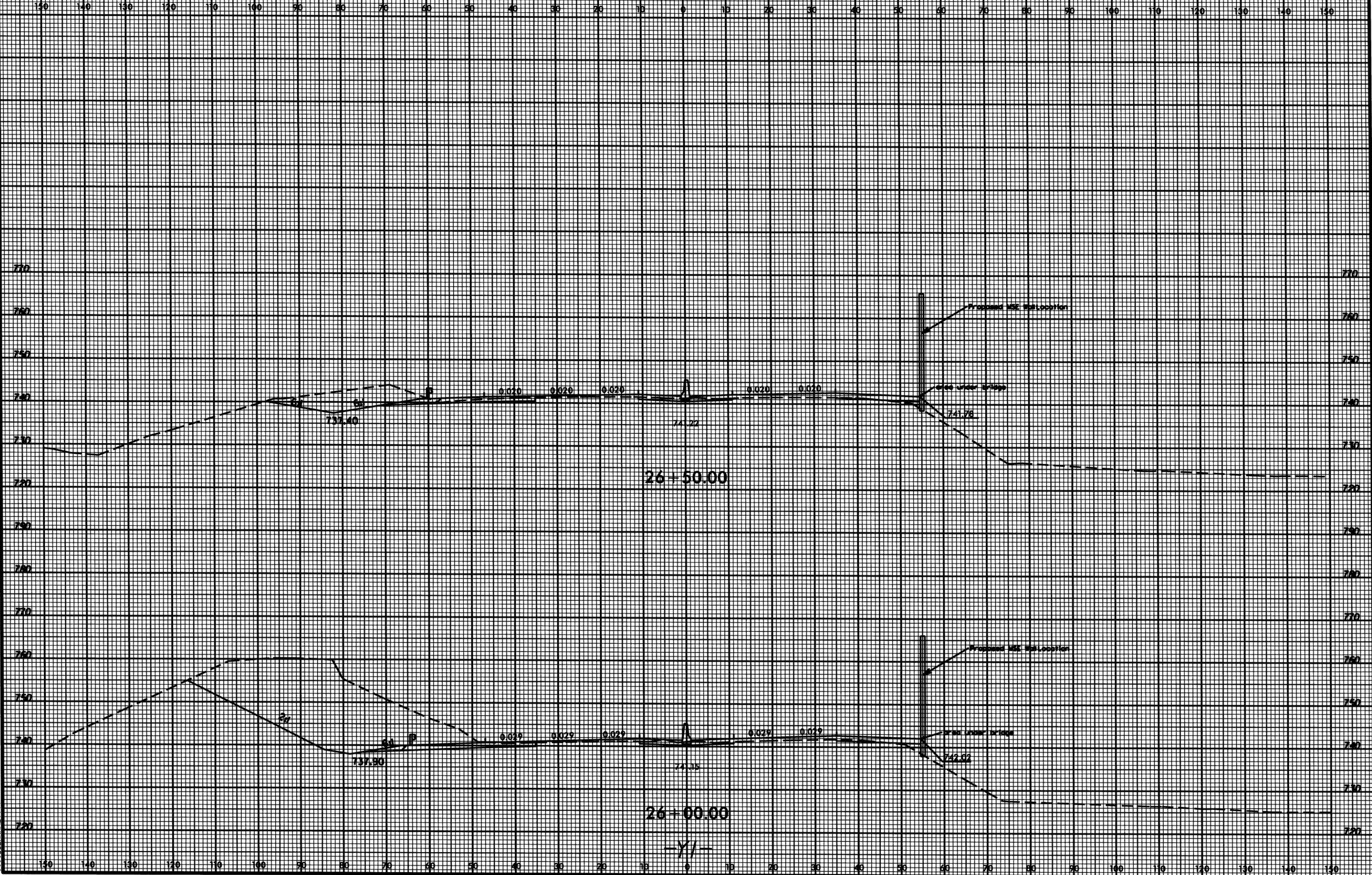
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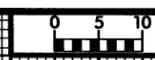


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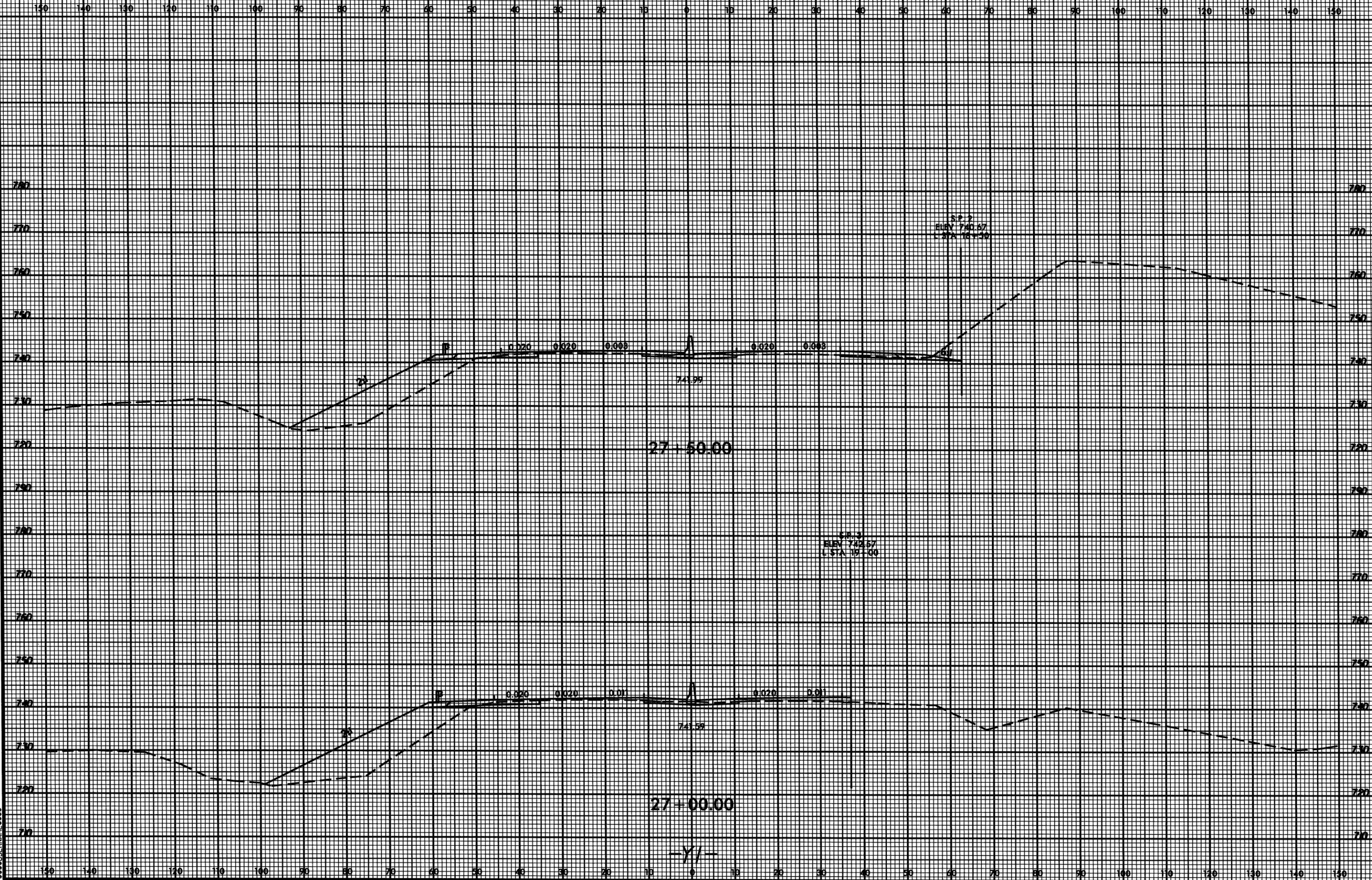


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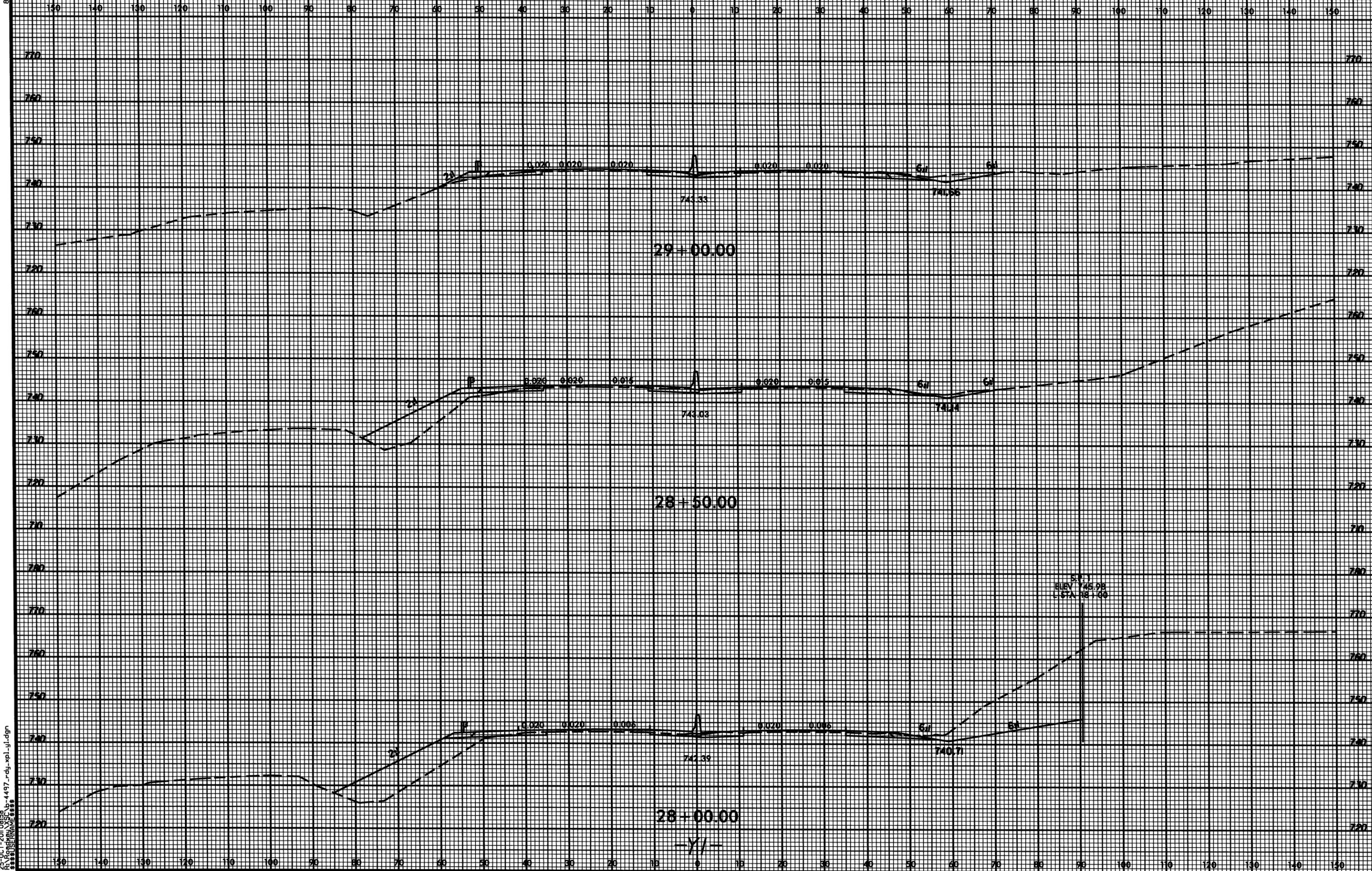


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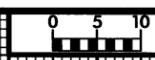


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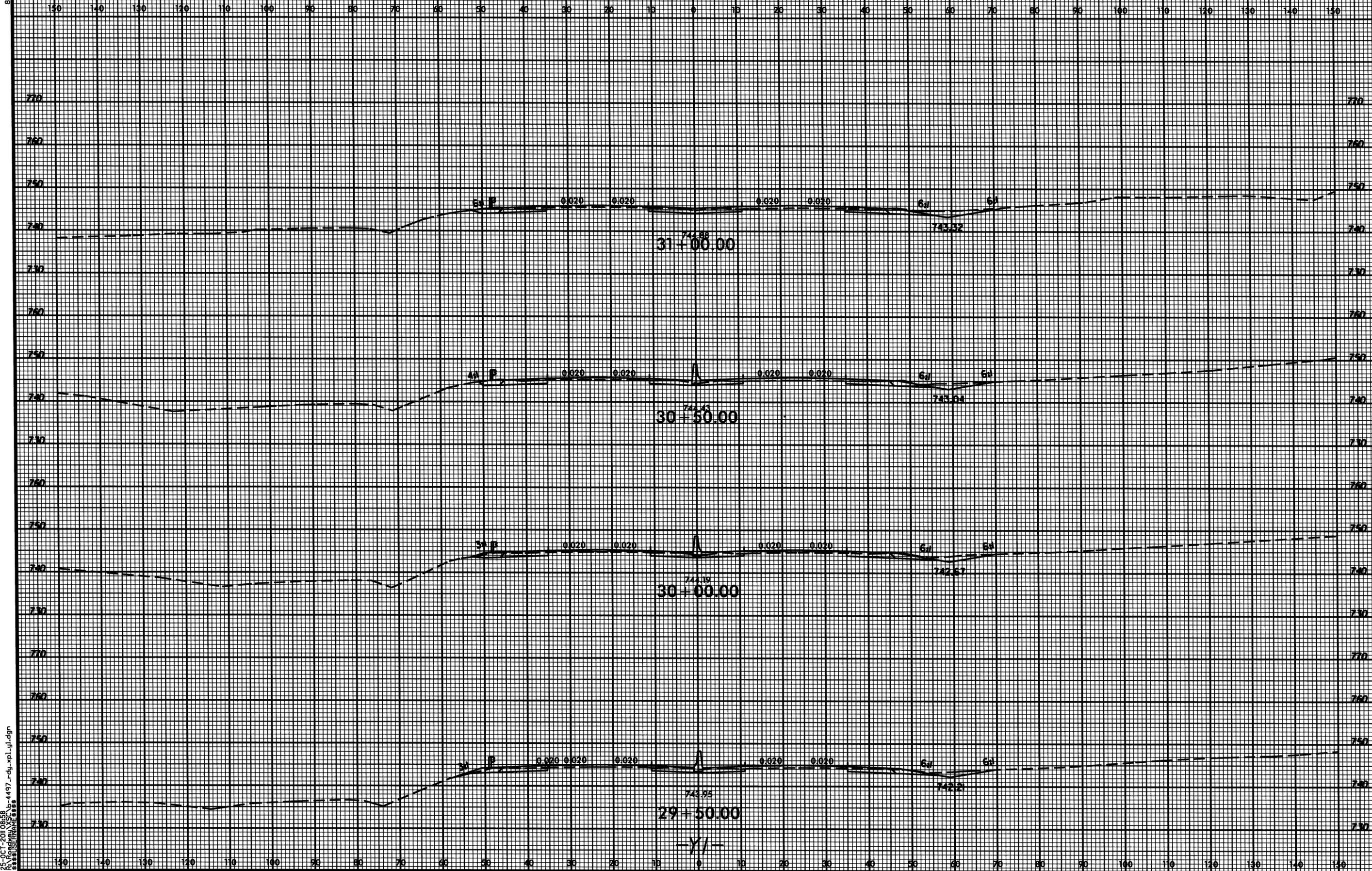


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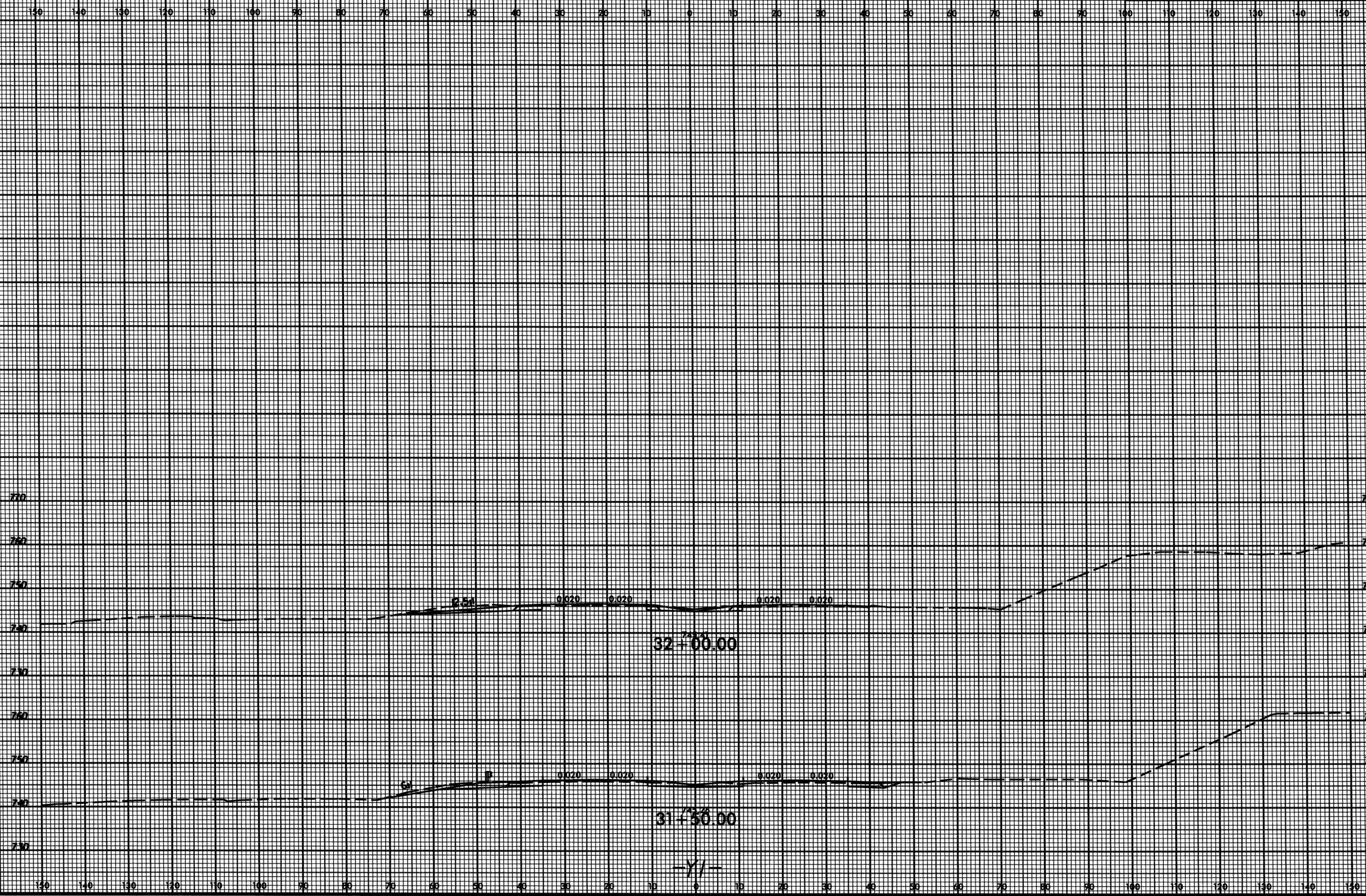


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