



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

July 11, 2013

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

ATTN: Mr. Monte Matthews
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permits 23 & 33** for
the proposed replacement of Bridge No. 15 over Elk Creek on
SR 1341 in Alleghany County, Federal Aid Project No. BRZ-
1341(2); WBS No. 38476.1.1; Division 11; TIP No. B-4701

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 15 (an 81-foot long bridge) over Elk Creek on SR 1341 with a 125-foot 3-span bridge. There will be 0.04 acre of permanent wetland impact (0.01 from fill and 0.03 from mechanized clearing), and 0.02 acre of temporary stream impact (<0.01 acre from temporary fill for construction activities and 0.02 acre from the utilization of a temporary causeway).

Please see enclosed copies of the PCN, Notice of Jurisdictional Determination, EEP acceptance letter, stormwater management plan, permit drawings, and design plans. A Programmatic Categorical Exclusion (PCE) was completed in April 2, 2012 and distributed shortly thereafter. Additional copies are available upon request.

Comments from the North Carolina Wildlife Resources Commission (NCWRC) will be required prior to authorization by the Corps of Engineers. By copy of this letter and attachments, NCDOT hereby requests NCWRC review. NCDOT requests that NCWRC forward their comments to the Corps of Engineers and the NCDOT within 30 calendar days of receipt of this application.

This project calls for a letting date of February 18, 2014 and a review date of December 31, 2013; however, the let date may advance as additional funding becomes available.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-707-6000
FAX: 919-212-5785

WEBSITE: NCDOT.GOV

LOCATION:
CENTURY CENTER, BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

A copy of this permit application and its distribution list will be posted on the NCDOT Website at: <https://connect.ncdot.gov/resources/Environmental/>. If you have any questions or need additional information, please call Bill Barrett at (919) 707-6103.

Sincerely,

A handwritten signature in black ink, appearing to read "E. L. Fush".

 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 <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input type="checkbox"/> Riparian Buffer Authorization		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	For the record only for Corps Permit: <input type="checkbox"/> Yes <input 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 15 over Elk Creek on SR 1341
2b. County:	Alleghany
2c. Nearest municipality / town:	Sparta
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-4701

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) 707-6103
3g. Fax no.:	(919) 212-5785
3h. Email address:	wabarrett@ncdot.gov

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

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 36.557837 (DD.DDDDDD) Longitude: - 81.216791 (-DD.DDDDDD)
1c. Property size:	0.22 acre
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Elk Creek
2b. Water Quality Classification of nearest receiving water:	C+
2c. River basin:	New
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: rural, with single-family homes, pasture, and wooded areas.	
3b. List the total estimated acreage of all existing wetlands on the property: 0.1	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 324	
3d. Explain the purpose of the proposed project: To replace a structurally deficient (sufficiency rating of 17.7 out of 100) and functionally obsolete (structural appraisal of 2 out of 9 and a deck geometry appraisal of 3 out of 9) bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing an 81-foot bridge with a 125-foot, 3-span bridge on the existing alignment with an off-site detour. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments: Action ID 200902313	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input checked="" type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): K. Dramby, B. Barrett	Agency/Consultant Company: NCDOT Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. December 22, 2009	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	
6. Future Project Plans	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

C. Proposed Impacts Inventory

1. Impacts Summary

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

- Wetlands Streams - tributaries Buffers
 Open Waters Pond Construction

2. Wetland Impacts

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

2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	fill	Non-Tidal FW Marsh	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.01
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	mechanized clearing	Non-Tidal FW Marsh	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.03
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
2g. Total wetland impacts					0.04 Permanent 0 Temporary

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 type="checkbox"/> P <input checked="" type="checkbox"/> T	temporary causeway	Elk Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	25 *	27 lf (0.02 ac)
Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	temp fill for construction activity	Elk Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	25 *	62 lf (<0.01 ac)
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						89 lf Temp. (0.02 ac)

3i. Comments: * average of upstream/downstream, as there is unnatural over-widening of the channel at the bridge crossing.

4. Open Water Impacts

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

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

4g. Comments:

5. Pond or Lake Construction

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

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

5g. Comments:

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

6. Buffer Impacts (for DWQ)

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

6a. Project is in which protected basin?		<input type="checkbox"/> Neuse <input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Other: <input type="checkbox"/> Catawba <input type="checkbox"/> Randleman			
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
6h. Total buffer impacts					
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. <p>The proposed bridge is 44 feet longer than the existing bridge; the proposed bridge will be at approximately the same grade as the existing structure; an off site detour will be used, 1.5:1 and 2:1 fill slopes where practicable.</p> <p>There will be no direct discharge in to Elk Creek, as deck drainage has been directed off the bridge and outleted in to a riprap dissipator.</p> <p>Impacts to surface waters have been minimized by construction of a longer wing wall on the southern approach.</p> <p>A pre-formed scour hole was investigated but deemed impractical due to steep topography.</p>		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. <p>As the project is upstream of an Outstanding Resource Water (New River), Design Standards in Sensitive Watersheds will be implemented.</p> <p>Historically there has been considerable debris accumulation on the interior bent of the existing bridge (according to interviews with local residents) which has caused erosion of the channel bank on the north side, thereby significantly widening the channel the under the bridge. Accumulation of the debris on the upstream side has also created an island on the downstream side of the bridge. Installation of the temporary causeway will not block more than 50% of the natural channel conveyance since the causeway will mainly be constructed in the area which has been widened by erosion of the channel bank (see Permit Drawing Sheet 7 of 8).</p>		
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 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:	0 linear feet	
4c. If using stream mitigation, stream temperature:	<input type="checkbox"/> warm <input type="checkbox"/> cool <input checked="" type="checkbox"/> cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	0.04 acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments:		
5. Complete if Using a Permittee Responsible Mitigation Plan		

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

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ

6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation? Yes No

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

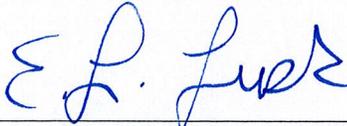
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
6f. Total buffer mitigation required:				

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

6h. Comments:

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

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

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<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? NHP, USFWS, NCDOT surveys. Bog turtle is only species listed for Alleghany County (due to similarity of appearance), which does not require a Biological Conclusion.		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	7-9-13 Date

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT**

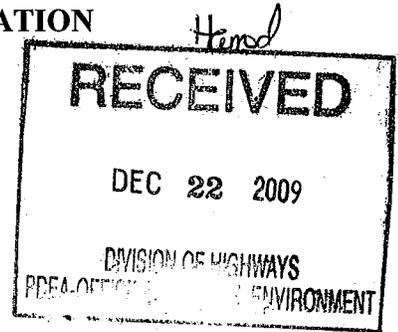
Action Id. 200902313

County: Alleghany

U.S.G.S. Quad: see decimal degrees

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Agent: NCDOT, (agent)
Address: Attn: Ms. Jennifer Harrod
1598 Mail Service Center
Raleigh, NC 27699-1598
Telephone No.: 919-431-6672



Property description:
Size (acres) road corridor, app. 1-2 acres Nearest Town Amelia
Nearest Waterway Elk Creek River Basin New
USGS HUC New 05050001 Coordinates N 36.558504 W -81.216828
Location description Bridge #15 on Osborne Memorial Road (SR 1341) over Elk Creek

Indicate Which of the Following Apply:

A. Preliminary Determination

Based on preliminary information, there may be wetlands on the above described property. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).

B. Approved Determination

There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

There are waters of the U.S. including wetlands on the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

We strongly suggest you have the waters of the U.S. including wetlands on your project area delineated. Due to the size of your property and/or our present workload, the Corps may not be able to accomplish this wetland delineation in a timely manner. For a more timely delineation, you may wish to obtain a consultant. To be considered final, any delineation must be verified by the Corps.

The waters of the U.S. including wetland on your project area have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.

The wetlands have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on _____. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

There are no waters of the U.S., to include wetlands, present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Washington, NC, at (252) 946-6481 to determine their requirements.

Action ID: 200902313

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact **Monte Matthews** at **919-554-4884**.

C. Basis For Determination

evidence of an ordinary high water mark, use of the 1987 Wetlands Delineation Manual, and evidence of surface flow to Elk Creek then the New River, a TNW.

D. Remarks

E. Attention USDA Program Participants

This delineation/determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the particular site identified in this request. The delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

F. Appeals Information (This information applies only to approved jurisdictional determinations as indicated in B. above)

This correspondence constitutes an approved jurisdictional determination for the above described site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

District Engineer, Wilmington Regulatory Division
Attn: Jean Manuele, Project Manager,
Raleigh Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **February 18, 2010**.

It is not necessary to submit an RFA form to the District Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: Monte Matthews

Date 12/18/2009

Expiration Date 12/18/2014

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at our website at <http://regulatory.usacesurvey.com/> to complete the survey online.

Copy furnished:
Amy Euliss, DWQ Winston-Salem



June 4, 2013

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-4701, Replace Bridge Number 15 over Elk Creek on SR 1341, Alleghany 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 June 4, 2013, the impacts are located in CU 05050001 of the New River basin in the Northern Mountains (NM) Eco-Region, and are as follows:

New 05050001 NM	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0.04	0	0	0	0

*Some of the stream and wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

This impact and associated mitigation need were under projected by the NCDOT in the 2013 impact data. EEP will commit to implement sufficient compensatory riparian wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-707-8420.

Sincerely,

James B. Stanfill
EEP Asset Management Supervisor

cc: Mr. Monte Matthews, USACE – Raleigh Regulatory Field Office
Ms. Amy Chapman, Division of Water Quality, Wetlands/401 Unit
File: B-4701

Restoring... Enhancing... Protecting Our State





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-4701

County(ies): Alleghany

Page 1 of 3

General Project Information

Project No.:	B-4701	Project Type:	Bridge Replacement	Date:	4/18/2013
NCDOT Contact:	Marshall Clawson, PE	Contractor / Designer:	Sungate Design Group, P.A.		
Address:	1020 Birch Ridge Road Raleigh, NC 27610	Address:	915 Jones Franklin Road Raleigh, NC 27606		
Phone:	919-707-6748	Phone:	919-859-2243		
Email:	mclawson@ncdot.gov	Email:	hwells@sungatedesign.com		
City/Town:	Sparta	County(ies):	Alleghany		
River Basin(s):	New	CAMA County?	No		
Primary Receiving Water:	Elk Creek	NCDWQ Stream Index No.:	10-1-15		
NCDWQ Surface Water Classification for Primary Receiving Water	Primary:	Class C			
	Supplemental:	Trout Waters (Tr); +			
Other Stream Classification:	None				
303(d) Impairments:	None				
Buffer Rules in Effect	N/A				

Project Description

Project Length (lin. Miles or feet):	0.09	Surrounding Land Use:	Rural, Agriculture		
	Proposed Project		Existing Site		
Project Built-Upon Area (ac.)	0.22	ac.	0.18	ac.	
Typical Cross Section Description:	2-Lane Shoulder Section		2-Lane Shoulder Section		
Average Daily Traffic (veh/hr/day):	Design/Future:	500	Existing:	270	

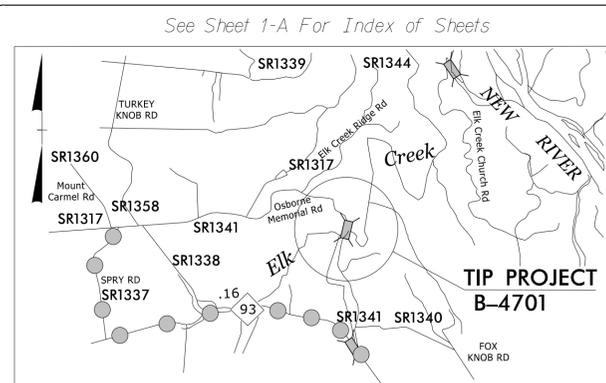
General Project Narrative: B-4701 involves the removal and replacement of Alleghany County bridge number 15 along with improvements to their approaches. Impacts to surface waters have been minimized by installation of a longer endbent wing wall on the southern approach. There are no roadside ditches on the project so treatment in swales was not an option. There were no deck drains proposed for the bridge so there will be no direct discharge of stormwater into Elk Creek; thereby, reducing impacts to surface waters associated with direct roadway runoff. All deck drainage has been directed off the bridge and outleted into a rip rap dissipator. A preformed scour hole was investigated but deemed impractical due to steep topography.

References

09.08/99

6/11/2013 L:\ProjectList\1042\1078 - B-4701 Alleghany County\Design Files\Hydraulics\PERMITS_Environment\Drawings\B4701_Hyd_prm_wet_psh_01.dgn

CONTRACT: TIP PROJECT: B-4701



VICINITY MAP
DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ALLEGHANY COUNTY

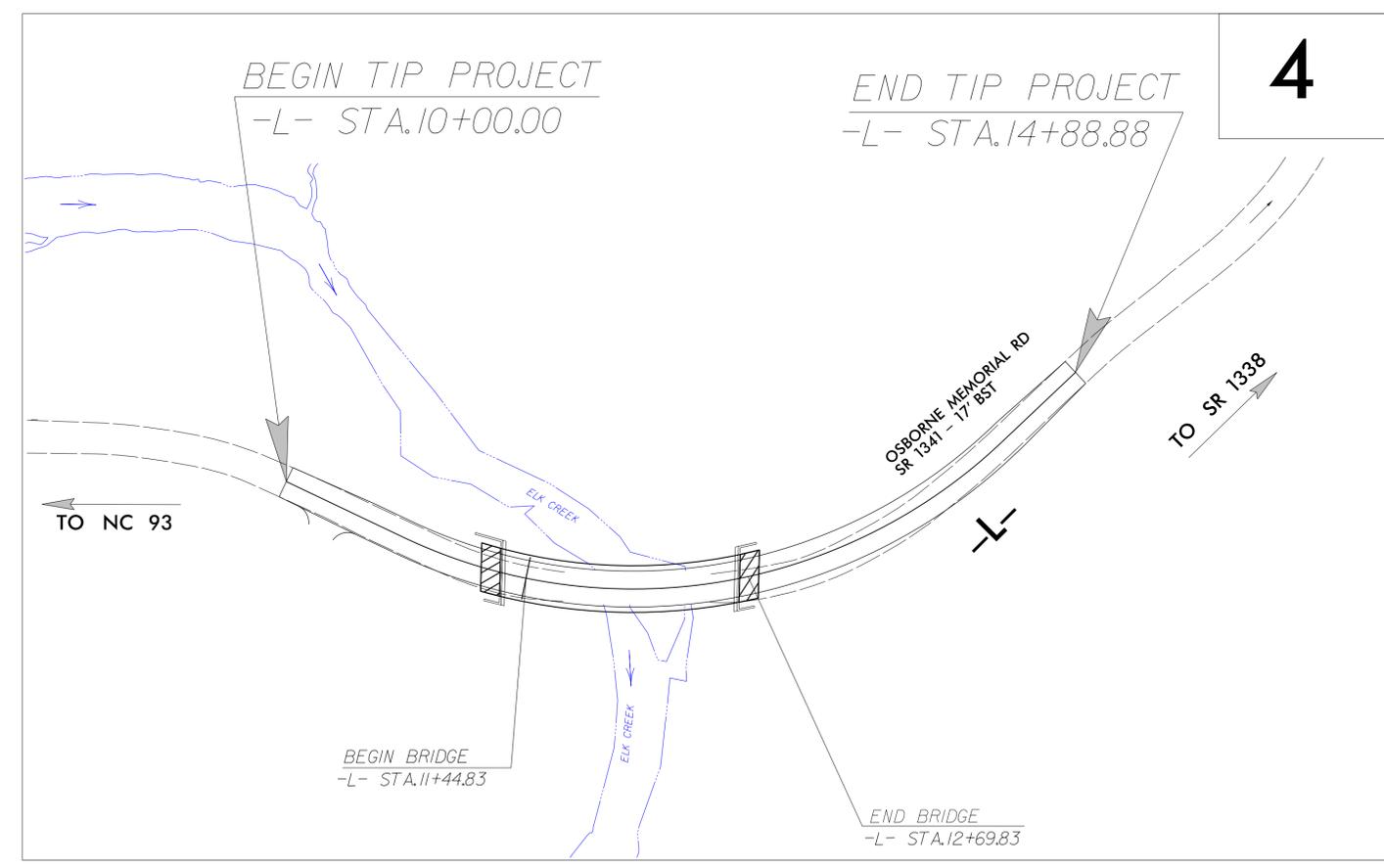
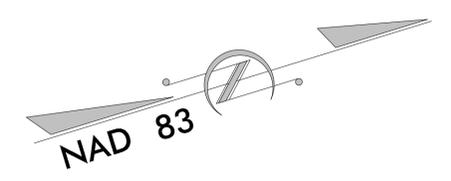
LOCATION: REPLACE BRIDGE 15 OVER ELK CREEK ON SR 1341 (OSBORNE MEMORIAL ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

WETLAND AND SURFACE WATER IMPACTS PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4701	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38476.1.1	BRZ-1341(2)	PE	

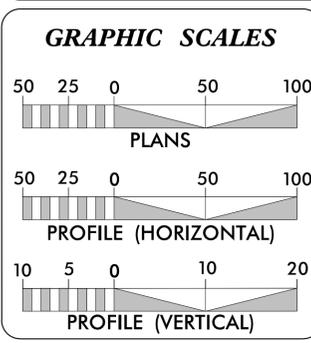
PERMIT DRAWING SHEET 1 OF 8



DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ____.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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



DESIGN DATA

ADT 2011 =	270
ADT 2035 =	500
DHV =	10 %
D =	60 %
T =	5 % *
V =	35 MPH
* TTST = 2% DUAL 3%	
FUNC CLASS =	LOCAL
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4701 =	0.069 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4701 =	0.024 MILES
LENGTH OF STATE PROJECT B-4701 =	0.093 MILES

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

2006 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: AUGUST 17, 2012	TED S. WALLS PROJECT ENGINEER
LETTING DATE: FEBRUARY 16, 2017	ALLISON K. WHITE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

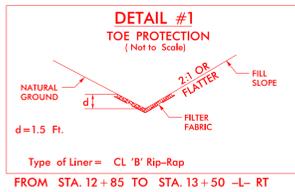
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

8/17/99

REVISIONS

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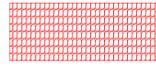
DENOTES MECHANIZED CLEARING



DENOTES FILL IN WETLAND



DENOTES TEMPORARY IMPACTS IN SURFACE WATER

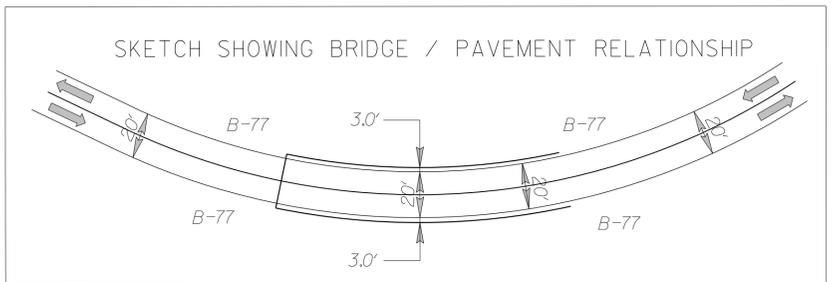
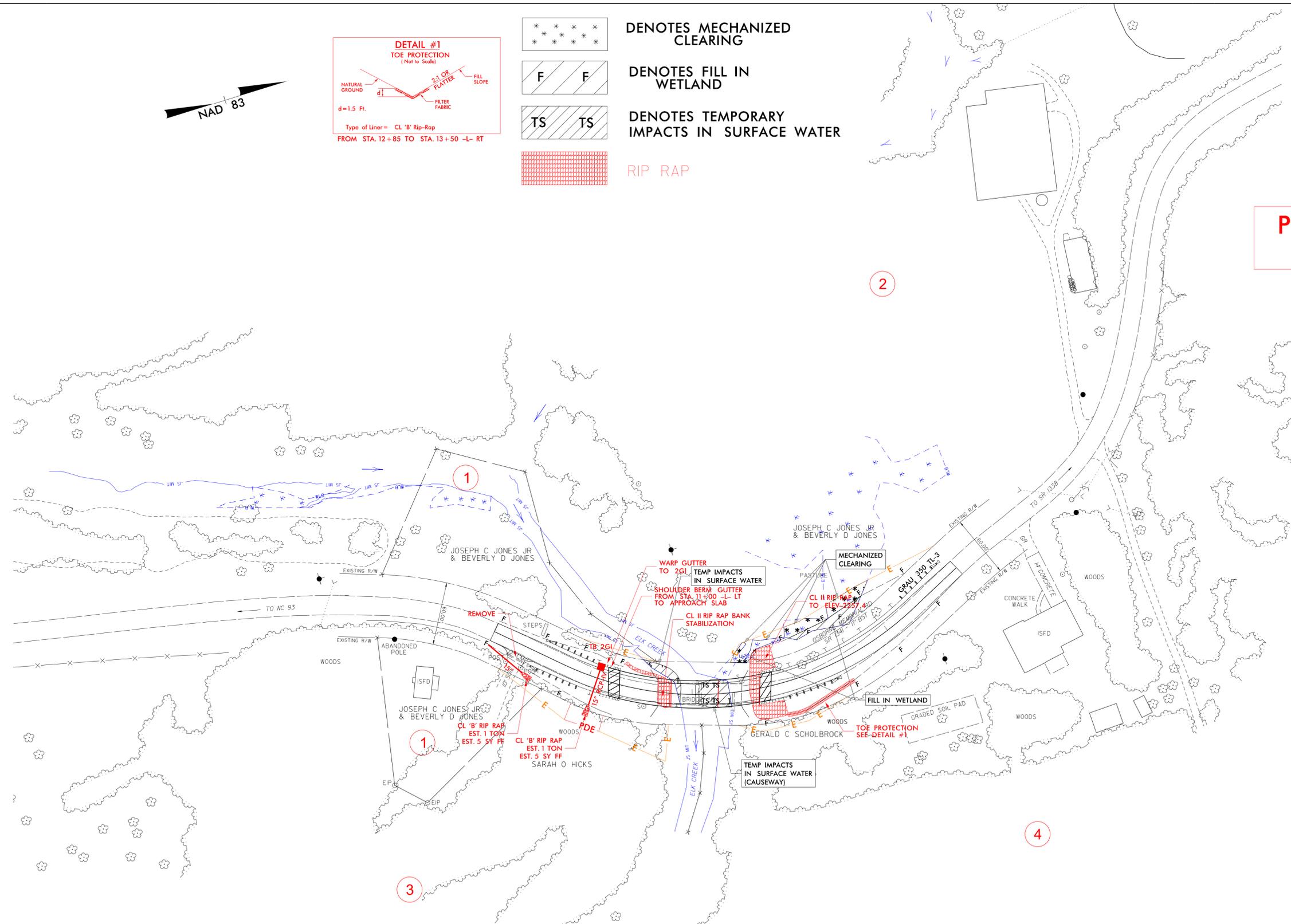


RIP RAP

PROJECT REFERENCE NO. B-4701	SHEET NO. 4
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SEE SHEET 5 FOR PROFILE

**PERMIT DRAWING
SHEET 2 OF 8**

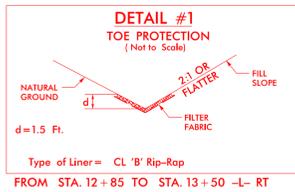


8/17/99

PROJECT REFERENCE NO. B-4701	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SEE SHEET 5 FOR PROFILE

**PERMIT DRAWING
SHEET 3 OF 8**



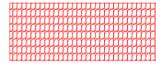
DENOTES MECHANIZED CLEARING



DENOTES FILL IN WETLAND

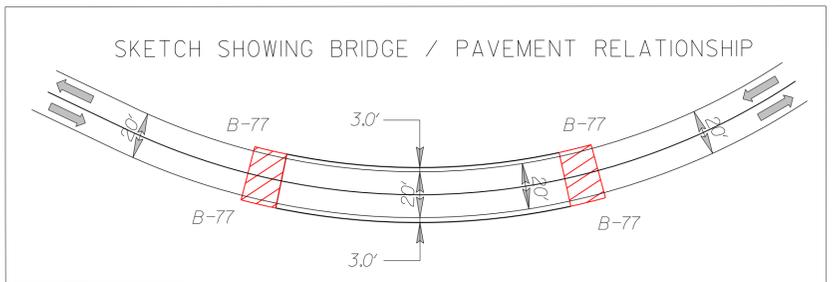
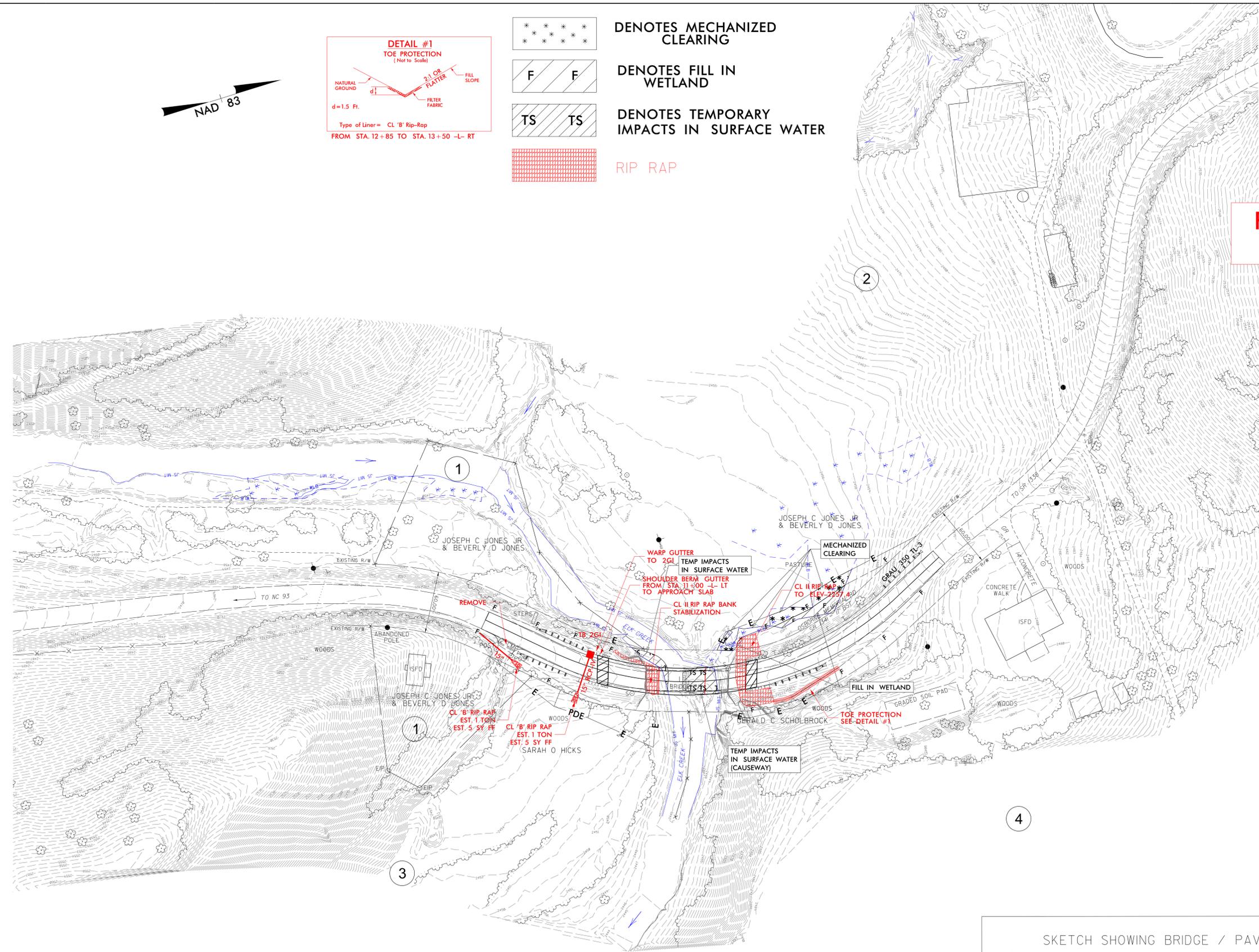


DENOTES TEMPORARY IMPACTS IN SURFACE WATER



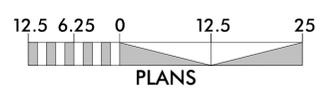
RIP RAP

REVISIONS
 6/1/2013
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PROJECT REFERENCE NO. B-4701	SHEET NO. 04A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

**PERMIT DRAWING
SHEET 4 OF 8**

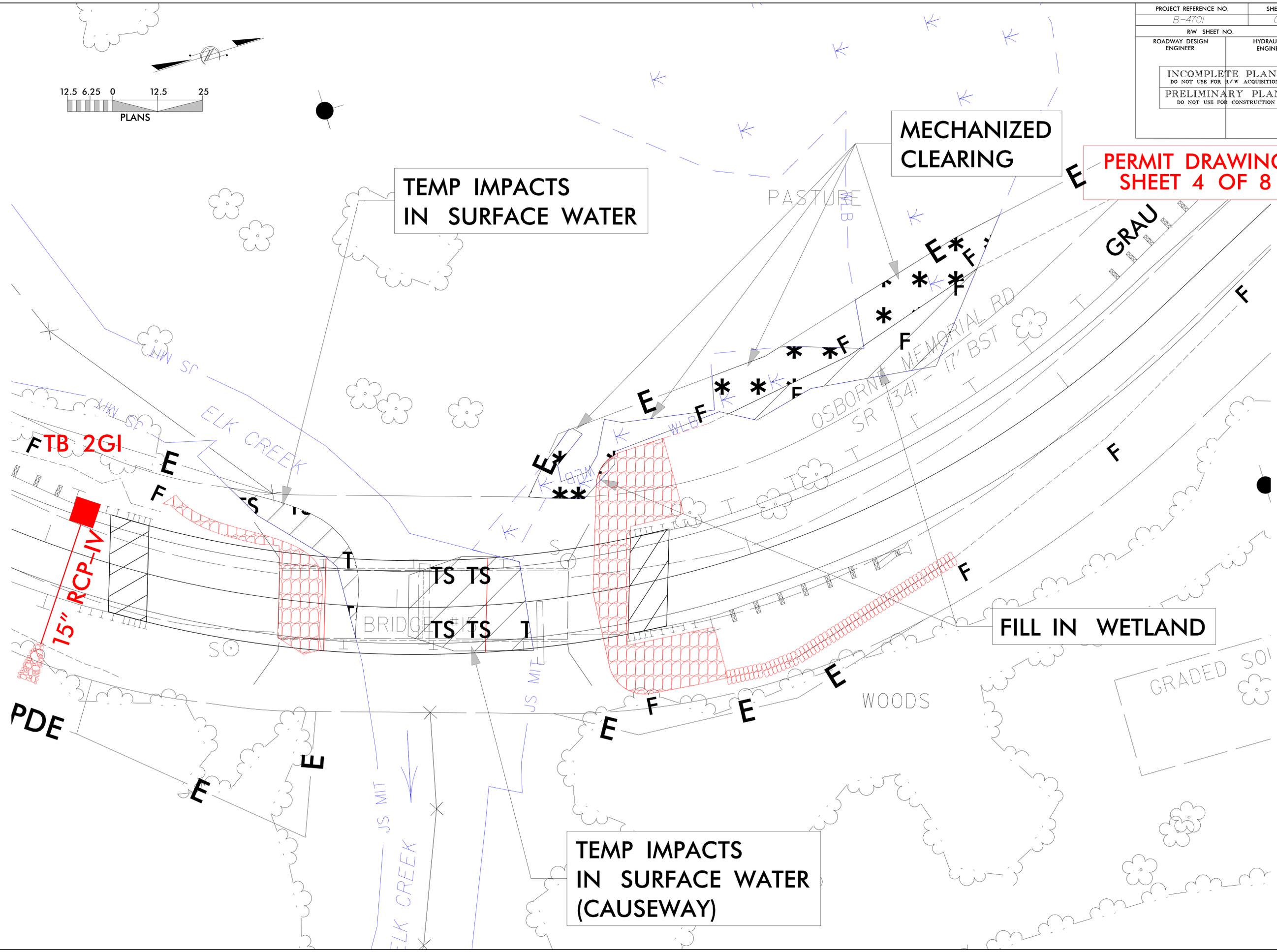


**TEMP IMPACTS
IN SURFACE WATER**

**MECHANIZED
CLEARING**

FILL IN WETLAND

**TEMP IMPACTS
IN SURFACE WATER
(CAUSEWAY)**



6/1/2013
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 REVISIONS

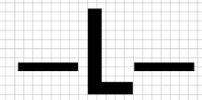
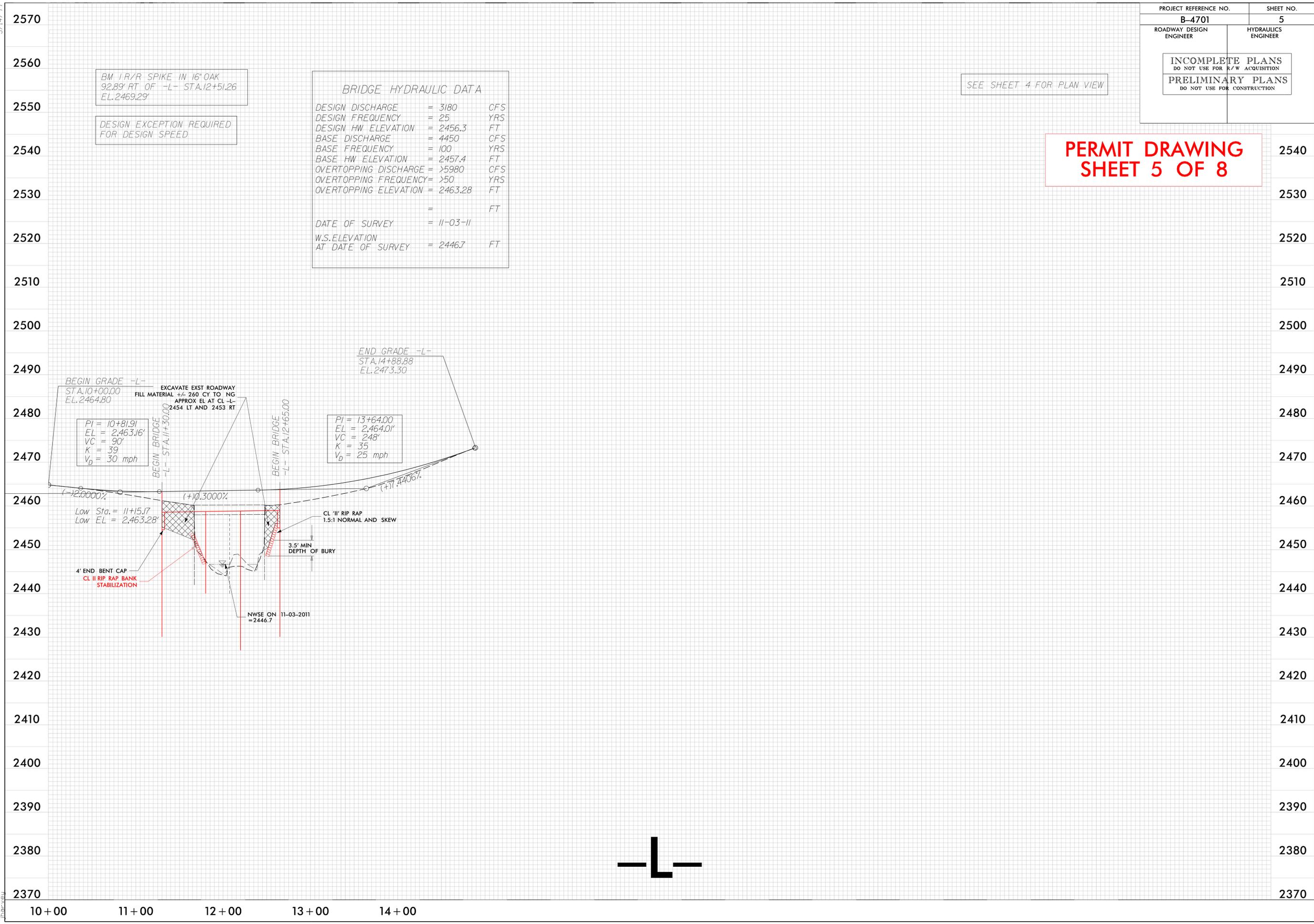
8/17/99

5/14/99
 6/1/2013
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PROJECT REFERENCE NO. B-4701	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SEE SHEET 4 FOR PLAN VIEW

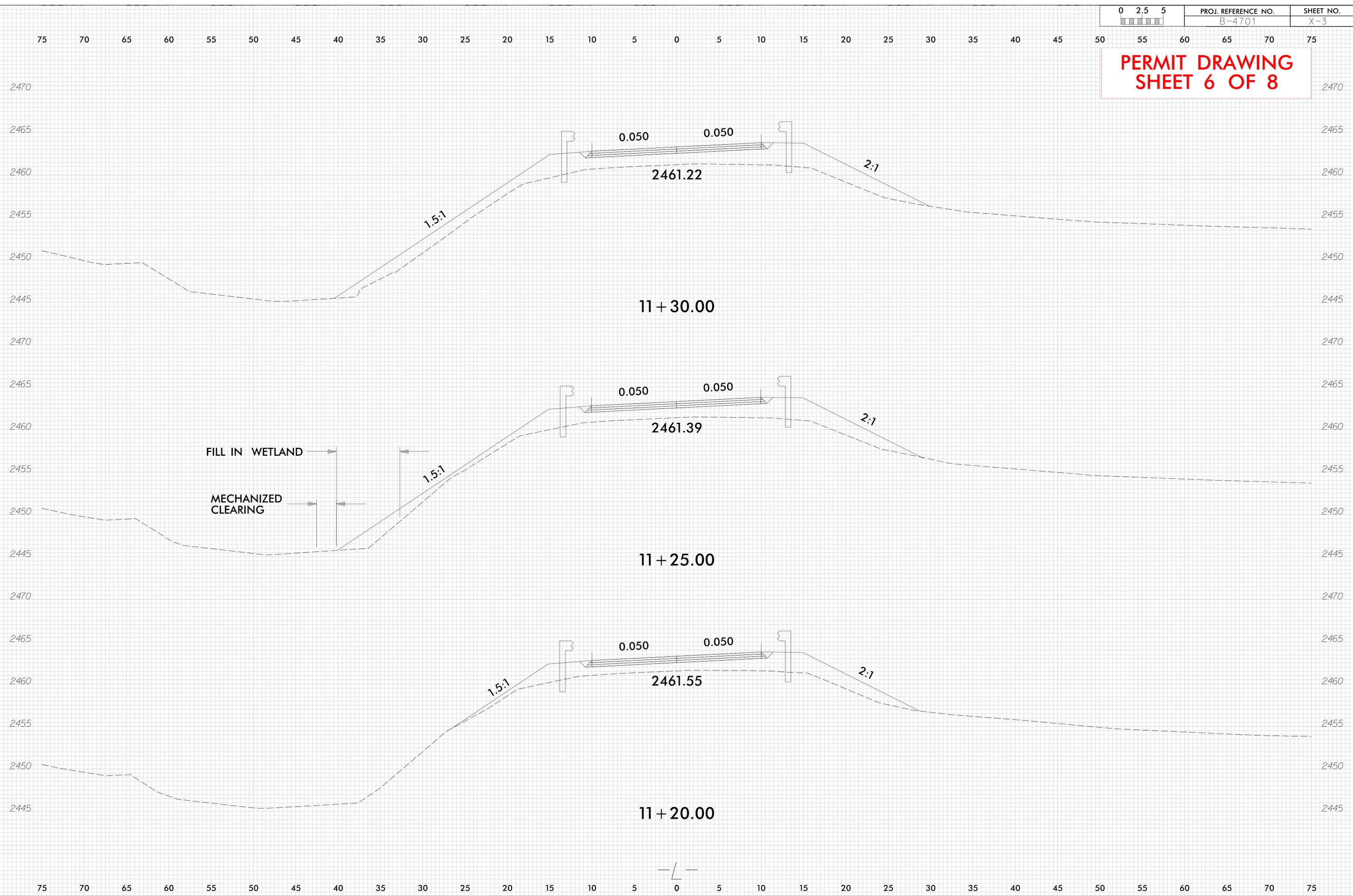
PERMIT DRAWING
SHEET 5 OF 8



8/23/99
6/11/2013
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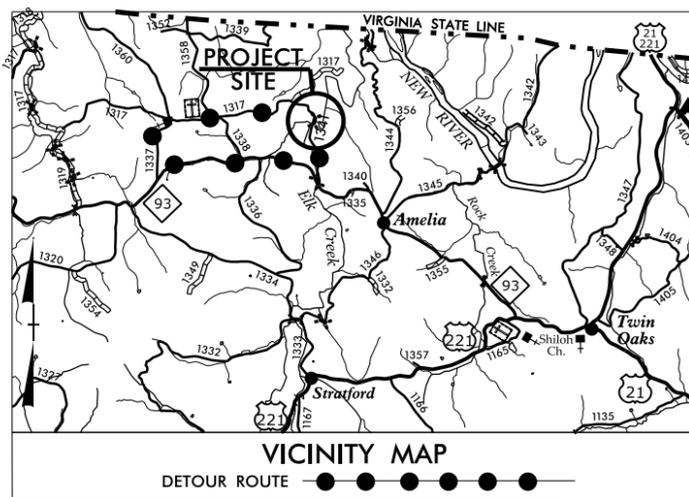
0 2.5 5	PROJ. REFERENCE NO. B-4701	SHEET NO. X-3
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**PERMIT DRAWING
SHEET 6 OF 8**



09/08/14

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ALLEGHANY COUNTY

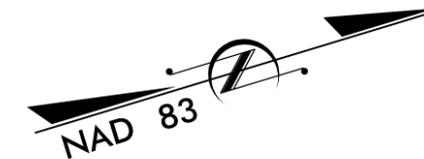
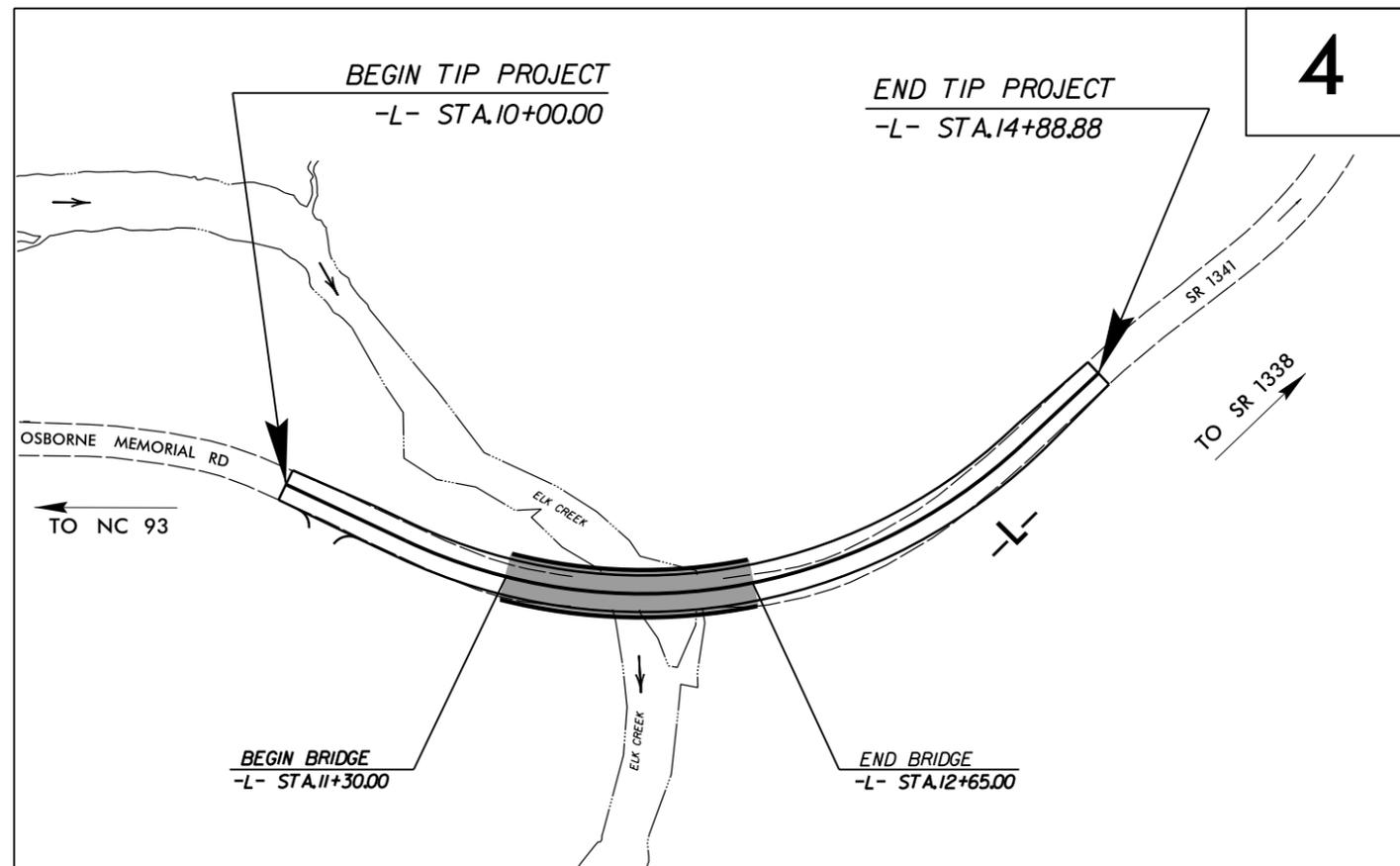
LOCATION: REPLACE BRIDGE 15 OVER ELK CREEK ON SR 1341 (OSBORNE MEMORIAL ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4701	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38476.1.1	BRZ-1341 (2)	PE	
38476.2.1	BRZ-1341 (2)	R/W, UTIL	



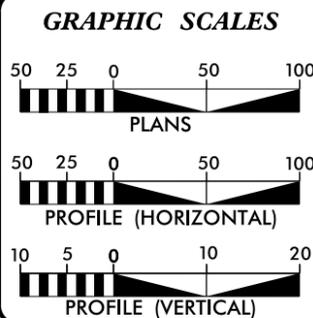
TIP PROJECT: B-4701



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2011 =	270
ADT 2035 =	500
DHV =	10 %
D =	60 %
T =	5 % *
V =	35 MPH
* TTST = 2% DUAL 3%	
FUNC CLASS =	LOCAL
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4701 =	0.067 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4701 =	0.026 MILES
LENGTH OF STATE PROJECT B-4701 =	0.093 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 19, 2012

LETTING DATE:
OCTOBER 15, 2013

JASON MOORE, PE
PROJECT ENGINEER

BRYAN KEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



21-SEP-2012 15:55 R:\Roadway\Projects\B-4701_Rdy_rsh.dgn \$\$\$USERNAME\$\$\$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

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

04/16/11

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	-----
Property Monument	□ ECM
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	----- WLB
Proposed Wetland Boundary	----- WLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ☠

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
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	○ 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	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage / Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	○ CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----

VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----

Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

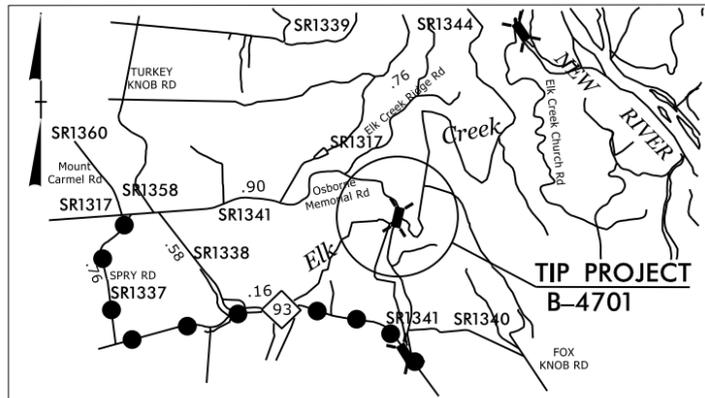
SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
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	□
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊗
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

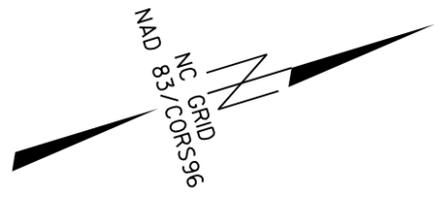
SURVEY CONTROL SHEET B-4701



VICINITY MAP
DETOUR ROUTE ●●●●●●●●

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
B47011	GPS 4701-1	1028170.1720	1348599.3470	2500.10	OUTSIDE PROJECT LIMITS	
BL3	BL-3	1028470.6610	1348571.2290	2483.64	OUTSIDE PROJECT LIMITS	
BL4	BL-4	1028923.4180	1348663.3270	2465.70	OUTSIDE PROJECT LIMITS	
BL5	BL-5	1029286.9730	1348887.8830	2459.48	12+53.32	13.89 RT
B47012	GPS 4701-2	1029676.4872	1348721.2757	2489.40	OUTSIDE PROJECT LIMITS	

 BM1 ELEVATION = 2469.29
 N 1029273 E 1348966
 L STATION 12+51.00 93 RIGHT
 RR SPIKE IN 16" OAK

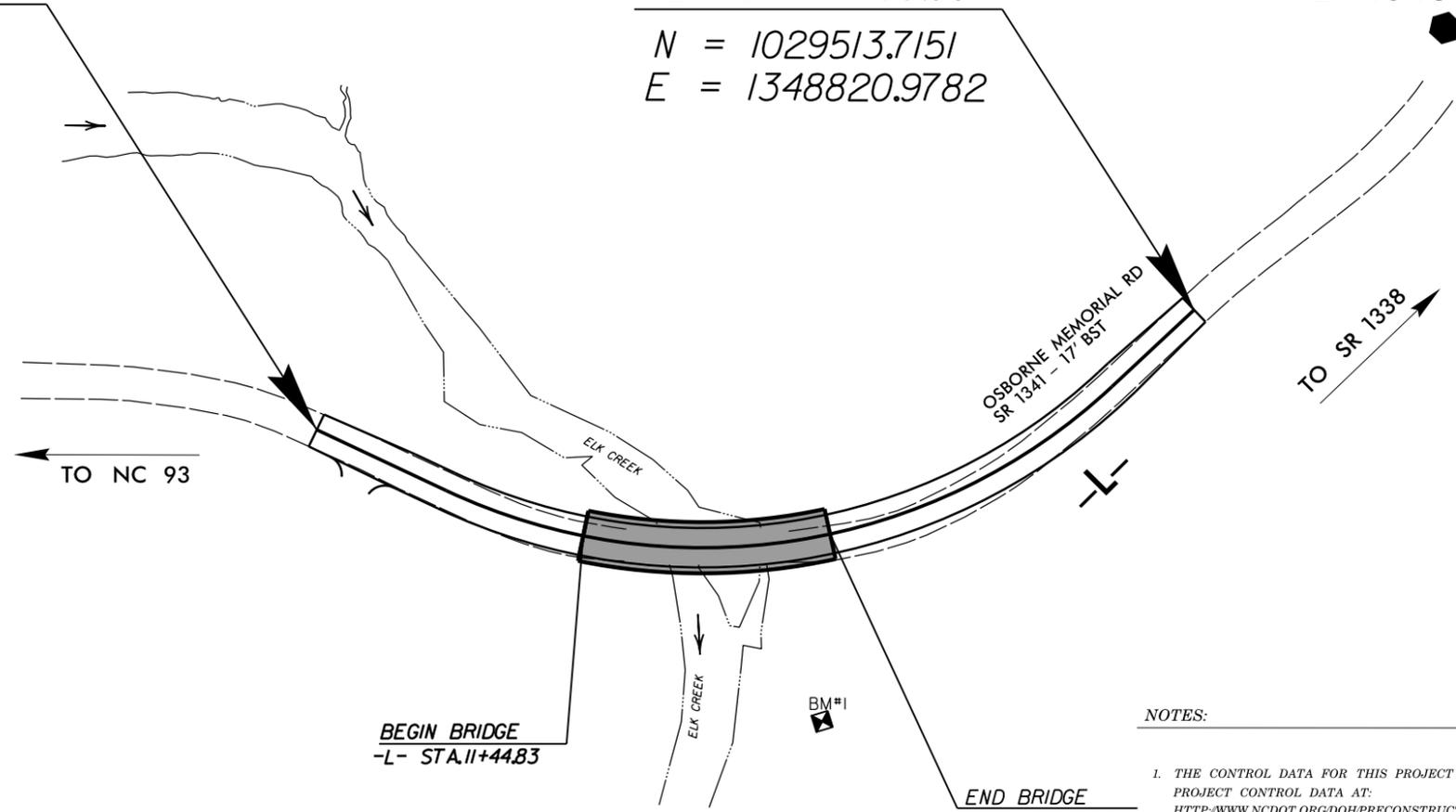


NC DOT GPS STATION B4701-2
LOCALIZED COORDINATES
 N=1029676.4872
 E=1348721.2757

BEGIN TIP PROJECT
 -L- STA.10+00.00
 N = 1029074.2730
 E = 1348749.3682

END TIP PROJECT
 -L- STA.14+88.88
 N = 1029513.7151
 E = 1348820.9782

NC DOT GPS STATION B4701-1
LOCALIZED COORDINATES
 N=1028170.1720
 E=1348599.3470



DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4701-2"
 WITH NAD 83/CORS96 STATE PLANE GRID COORDINATES OF
 NORTHING: 1029676.4872(±) EASTING: 1348721.2757(±)
 ELEVATION: (±)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.0000181903
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4701-2" TO -L- STATION 10+00 IS
 S 2°40'15" E 602.87
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/B4701_LS_CONTROL.TXT](http://www.ncdot.org/doh/preconstruct/highway/location/project/B4701_LS_CONTROL.TXT)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4701_LS_CONTROL.TXT
- SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

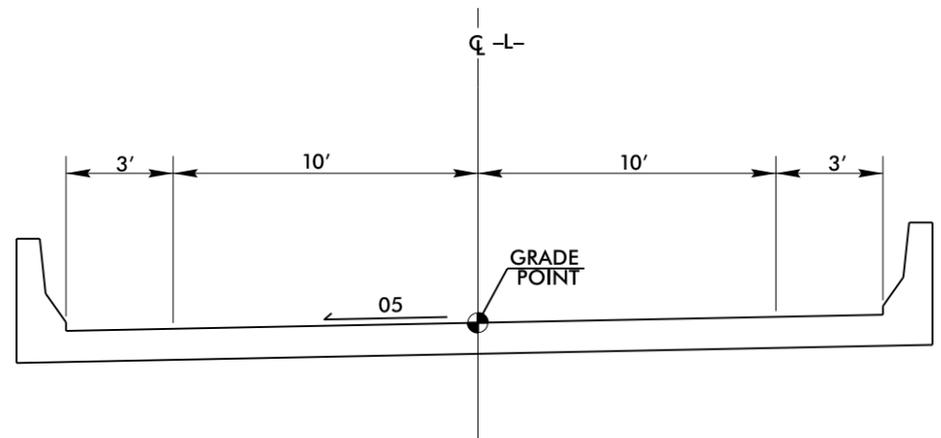
NOTE: DRAWING NOT TO SCALE

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 \$\$\$LISFRNAME\$\$\$

PROJECT REFERENCE NO. B-4701	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

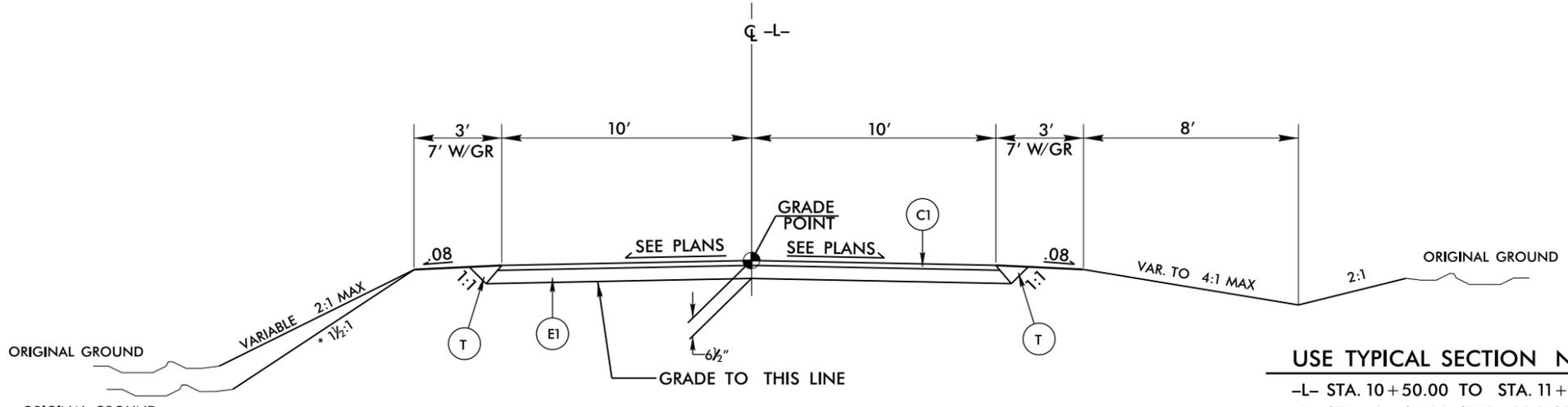
PAVEMENT SCHEDULE	
C	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
T	EARTH MATERIAL.

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



TYPICAL SECTION ON STRUCTURE

-L- STA. 11+30.00 TO STA. 12+65.00



TYPICAL SECTION NO. 1

* STA. 11+00 TO STA. 11+30 LT.

USE TYPICAL SECTION NO. 1 AS FOLLOWS:

- L- STA. 10+50.00 TO STA. 11+30.00 (BEGIN BRIDGE)
- L- STA. 12+65.00 (END BRIDGE) TO STA. 14+38.88
- NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1
- L- STA. 10+00.00 TO STA. 10+50.00
- L- STA. 14+38.88 TO STA. 14+88.88

5/14/99

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BM 1 R/R SPIKE IN 16' OAK
92.89' RT OF -L- STA.12+51.26
EL. 2469.29'

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= 3180	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 2456.3	FT
BASE DISCHARGE	= 4450	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2457.4	FT
OVERTOPPING DISCHARGE	= >5980	CFS
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING ELEVATION	= 2463.28	FT

2540

2530

2520

2510

2500

2490

2480

2470

2460

2450

2440

2430

2420

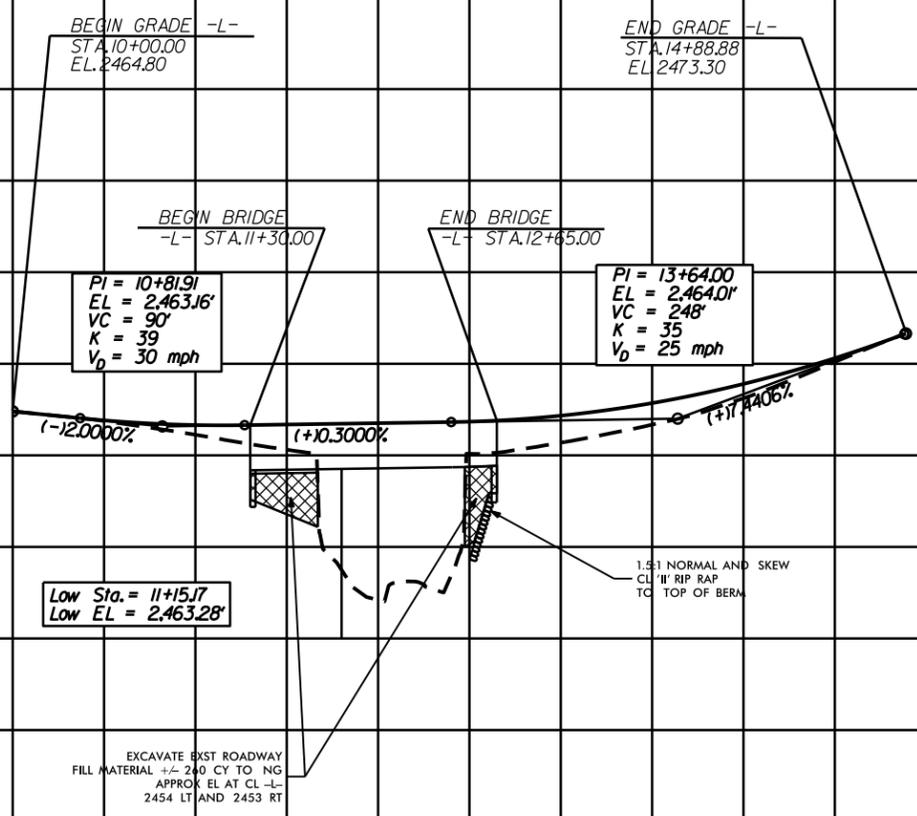
2410

2400

2390

2380

2370



10 + 00 11 + 00 12 + 00 13 + 00 14 + 00

SEE SHEET 4 FOR PLAN VIEW

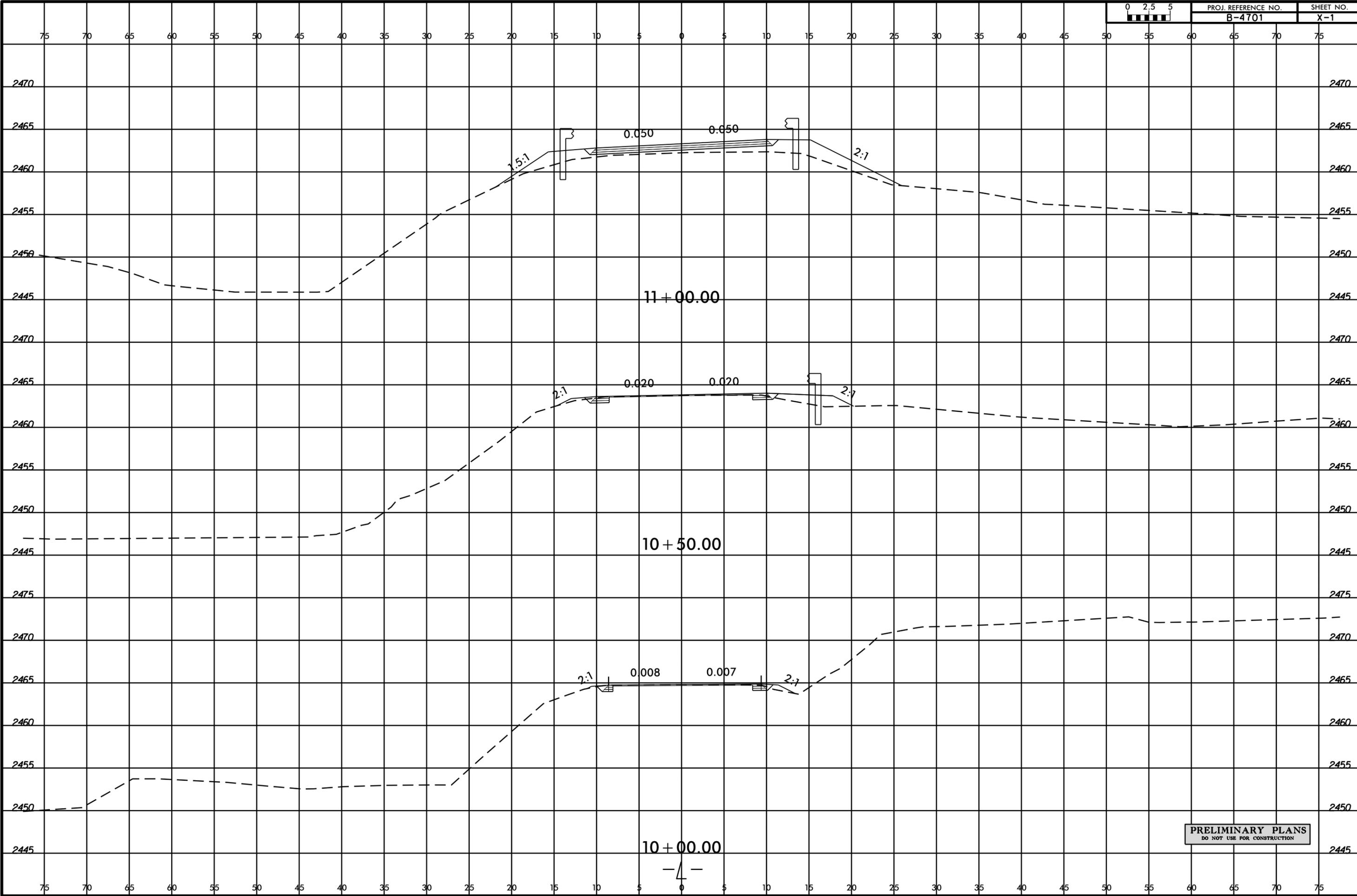
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PROJ. REFERENCE NO.
B-4701

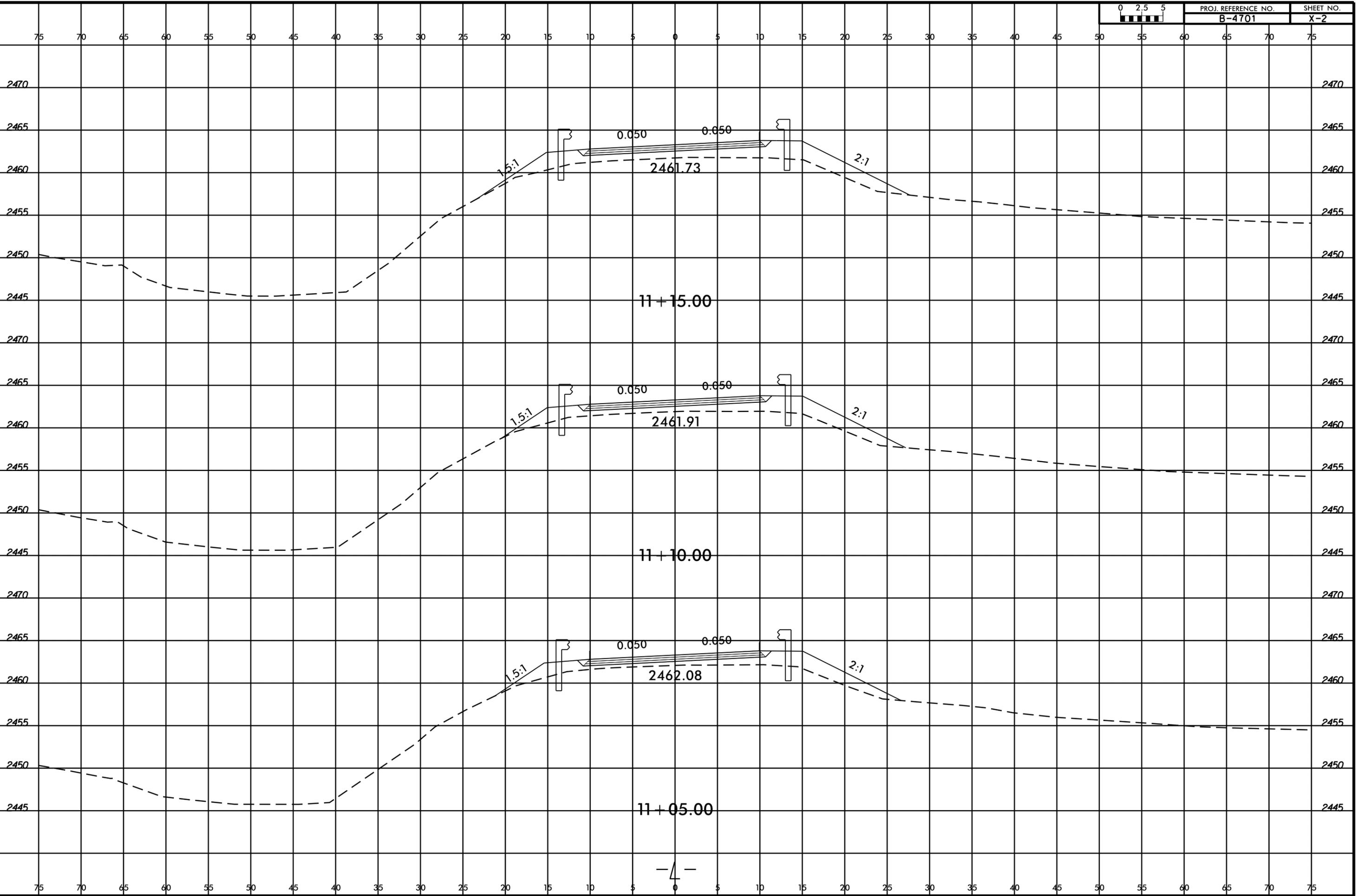
SHEET NO.
X-1



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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