STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

September 18, 2013

U. S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1890
Wilmington, NC 28402-1890

ATTN: Mr. Ronnie Smith
NCDOT Coordinator

Dear Sir:

Subject: **Application for Section 404 Nationwide Permit 13** for the replacement of Bridge No. 208 on SR 1003 (Erect Road) over Fork Creek in Randolph County, North Carolina. Federal Aid Project No. BRZ-1003(37). TIP No. B-4608.

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 208 over Fork Creek on SR 1003 (Erect Road) in Randolph County. Please find enclosed the Pre-Construction Notification (PCN) form, USFWS concurrence letter, Preliminary Jurisdictional Form, stormwater management plan, permit drawings, and design plans for the above referenced project. For impact totals, please see the PCN.

A Programmatic Categorical Exclusion (PCE) was completed for this project on February 19, 2013 and distributed shortly thereafter. Additional copies are available upon request. The proposed let date for the project is June 17, 2014 with a review date of April 29, 2014. However, the let date may advance as additional funds become available.

A copy of this permit application will be posted on the NCDOT Website at: https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Rachelle Beauregard at rbeauregard@ncdot.gov or (919) 707-6105.

Sincerely,

Deborah M. Barbour, P.E.,
Director of Preconstruction

cc: NCDOT Permit Application Standard Distribution List

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

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:	☒ Section 404 Permit	☐ Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 13	or General Permit (GP) number:	
1c. Has the N WP or GP number been verified by the Corps?	☒ Yes	☐ No

1d. Type(s) of approval sought from the DWQ (check all that apply):

☐ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit

☐ 401 Water Quality Certification – Express ☐ 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: ☒ Yes ☐ No	For the record only for Corps Permit: ☐ Yes ☒ 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.	☐ Yes	☒ No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	☐ Yes	☒ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	☐ Yes	☒ No

2. Project Information

2a. Name of project:	Replacement of Bridge 208 over Fork Creek on SR 1003 (Erect Road)
2b. County:	Randolph
2c. Nearest municipality / town:	Siler City
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P. or state project no:	B-4608

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	*not applicable*
3c. Responsible Party (for LLC if applicable):	*not applicable*
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6105
3g. Fax no.:	(919) 212-5785
3h. Email address:	rbeauregard@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ Other, specify:
4b. Name:	*not applicable*
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:	*not applicable*
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):	*not applicable*	
1b. Site coordinates (in decimal degrees):	Latitude: 35.52767 (DD.DDDDDD)	Longitude: - 79.64168 (-DD.DDDDDD)
1c. Property size:	2.6 acres	
2. Surface Waters		
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Fork Creek	
2b. Water Quality Classification of nearest receiving water:	C	
2c. River basin:	Cape Fear	
3. Project Description		
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: General land use in the project vicinity consists mainly of forested land, agriculture, and low density residential, with undeveloped forestland along stream corridors.		
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: 618		
3d. Explain the purpose of the proposed project: To replace a structurally deficient and functionally obsolete bridge.		
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 120-foot bridge with a 140-foot, 2-span bridge on the existing alignment on the south side withoffsets on the north side of the bridge to accommodate curve widening. An off-site detour will be used. 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:	☒ Yes ☐ No ☐ Unknown	
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☒ Preliminary ☐ Final	
4c. If yes, who delineated the jurisdictional areas? Name (if known): Beth Reed	Agency/Consultant Company: Kimley Horn Other:	
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. April 25, 2012		
5. Project History		
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	☐ Yes ☒ No ☐ Unknown	
5b. If yes, explain in detail according to "help file" instructions.		
6. Future Project Plans		
6a. Is this a phased project?	☐ Yes ☒ 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 2 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 2 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 2 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
				2g. **Total wetland impacts**	

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 ☒ P ☐ T	Bank stabilization	Fork Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	30	20
Site 1 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 2 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
				3h. **Total stream and tributary impacts**		20Perm

3i. Comments:

4. Open Water Impacts

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

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ 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?	☐ Yes ☐ 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?			☐ Neuse ☐ Catawba ☐ Tar-Pamlico ☐ Randleman ☐ 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 ☐ P ☐ T			☐ Yes ☐ No		
B2 ☐ P ☐ T			☐ Yes ☐ No		
B3 ☐ P ☐ T			☐ Yes ☐ 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. The proposed bridge is 24 feet longer than the existing bridge and will be at approximately the same alignment; promotion of sheet flow and infiltration with grassed shoulders; storm drains, ditch outleting to rip rap on embankment to prevent erosion, spanning the channel, using Design Standards for Sensitive Watersheds, no in-water work moratoruim from May 1, to July 31.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. NCDOT Best Management Practices for Construction and Maintenance Activities will be followed, as well as those for Sedimentation and Erosion Control; the utilization of an off-site detour and the removal of the interior bent will be done outside the moratorium in a non-shattering method.		
2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State		
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	☐ Yes ☒ No If no, explain:	
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☐ Corps	
2c. If yes, which mitigat ion option will be used for this project?	☐ Mitigation bank ☐ Payment to in-lieu fee program ☐ Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	☐ Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☐ cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments:		
5. Complete if Using a Permittee Responsible Mitigation Plan		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.		

6. **Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ**				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?			☐ Yes	☒ No
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
	6f. **Total buffer mitigation required:**			
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	☐ Yes ☒ No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments:	☐ Yes ☐ 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?	☒ Yes ☐ 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?	☐ Certified Local Government ☐ DWQ Stormwater Program ☒ 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):	☐ Phase II ☐ NSW ☐ USMP ☐ Water Supply Watershed ☐ Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	☐ Coastal counties ☐ HQW ☐ ORW ☐ Session Law 2006-246 ☐ Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No n/a
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☒ Yes ☐ No
5b. Have all of the 401 Unit submittal requirements been met?	☒ Yes ☐ No

F. Supplementary Information		
1. Environmental Documentation (DWQ Requirement)		
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	☒ Yes	☐ 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)?	☒ Yes	☐ 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:	☒ Yes	☐ 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)?	☐ Yes	☒ No
2b. Is this an after-the-fact permit application?	☐ Yes	☒ 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?	☐ Yes ☒ 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?	☒ Yes	☐ No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	☒ Yes	☒ No
5c. If yes, ind icate the USFWS Field Office you have contacted.	☒ Raleigh ☐ Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? USFWS county list, field surveys in 2007 and 2012. See attached concurrence letter from USFWS		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	☐ Yes	☒ 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)?	☐ Yes	☒ 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?	☒ Yes	☐ 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		

Deborah M. Barbour, P.E. Director of Preconstruction Applicant/Agent's Printed Name	Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	09/18/2013 Date

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? ☒ Yes ☐ No

5b. Have you checked with the USFWS concerning Endangered Species Act impacts? ☒ Yes ☐ No

5c. If yes, indicate the USFWS Field Office you have contacted. ☒ Raleigh ☐ Asheville

5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat?

USFWS county list, field surveys in 2007 and 2012. See attached concurrence letter from USFWS

6. Essential Fish Habitat (Corps Requirement)

6a. Will this project occur in or near an area designated as essential fish habitat? ☐ Yes ☒ 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)? ☐ Yes ☒ 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? ☒ Yes ☐ 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

Deborah M. Barbour, P.E.
Director of Preconstruction
Applicant/Agent's Printed Name

Applicant/Agent's Signature
(Agent's authorization to verify data submitted on behalf of the applicant is provided.)

04/15/2013
Date

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

July 8, 2013

Gregory J. Thorpe, Ph.D.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Dr. Thorpe:

This letter is in response to your letter of June 24, 2013 which provided the U.S. Fish and Wildlife Service (Service) with the biological determination of the North Carolina Department of Transportation (NCDOT) that the replacement of Bridge No. 208 on SR 1003 over Fork Creek in Randolph County (TIP No. B-4608) may affect, but is not likely to adversely affect the federally endangered Cape Fear shiner (*Notropis mekistocholas*). In addition, NCDOT has determined that the project will have no effect on the federally endangered Schweinitz's sunflower (*Helianthus schweinitzii*). These comments are provided in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to information provided, fish surveys were conducted at the project site on May 30, 2007; April 26, 2012; and May 2, 2012. The surveys extended 100 meters upstream and 400 meters downstream of SR 1003. Although suitable habitat was present, no Cape Fear shiners were observed.

The NCDOT has committed to the following conservation measures:

- NCDOT will design the new bridge to span the channel.
- Design Standards for Sensitive Watersheds will be implemented.
- A no in-water work moratorium from May 1 to July 31
- The removal of the interior bent will be done outside the moratorium in a non-shattering method.

The project area was also surveyed for Schweinitz's sunflower on September 12, 2012 by Kimley Horn biologists. No Schweinitz's sunflowers were observed during the survey.

Based on the survey results, other available information, and the commitment to the conservation measures, the Service concurs with your determination that the proposed bridge replacement may affect, but is not likely to adversely affect the Cape Fear shiner. Also, based on the survey data and other available information, the Service concurs with your determination that the project will have no effect on the Schweinitz's sunflower. We believe that the requirements of section

7(a)(2) of the ESA have been satisfied. We remind you that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action.

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,

Gary Jordan

for Pete Benjamin
Field Supervisor

cc: Ronnie Smith, USACE, Wilmington, NC
Travis Wilson, NCWRC, Creedmoor, NC
Felix Davila, FHWA, Raleigh, NC

ATTACHMENT

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): April 25, 2012

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Kimley-Horn and Associates, Inc.
Attn: Beth Reed, PWS on behalf of NCDOT
P.O. Box 33068
Raleigh, NC 27636-3068

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:
Wilmington, NCDOT - B-4608, SAW-2011-2348

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State:NC County/parish/borough: Randolph City: Erect
Center coordinates of site (lat/long in degree decimal format): Lat. 35.527625° **N**, Long. 79.642011° **W**.

Universal Transverse Mercator:

Name of nearest waterbody: Fork Creek

Identify (estimate) amount of waters in the review area:
Non-wetland waters: 922 linear feet: 2-30 width (ft) and/or 0.3 acres.
Cowardin Class: Riverine
Stream Flow: Perennial, Intermittent
Wetlands: 0 acres.
Cowardin Class: N/A

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal:

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

☐ Office (Desk) Determination. Date:

☒ Field Determination. Date(s): 4-24-12

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: Kimley Horn + Associates

☒ 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:Erect, 1:24,000.

☐ 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):2010.
or ☐ Other (Name & Date):.

☐ Previous determination(s). File no. and date of response letter:

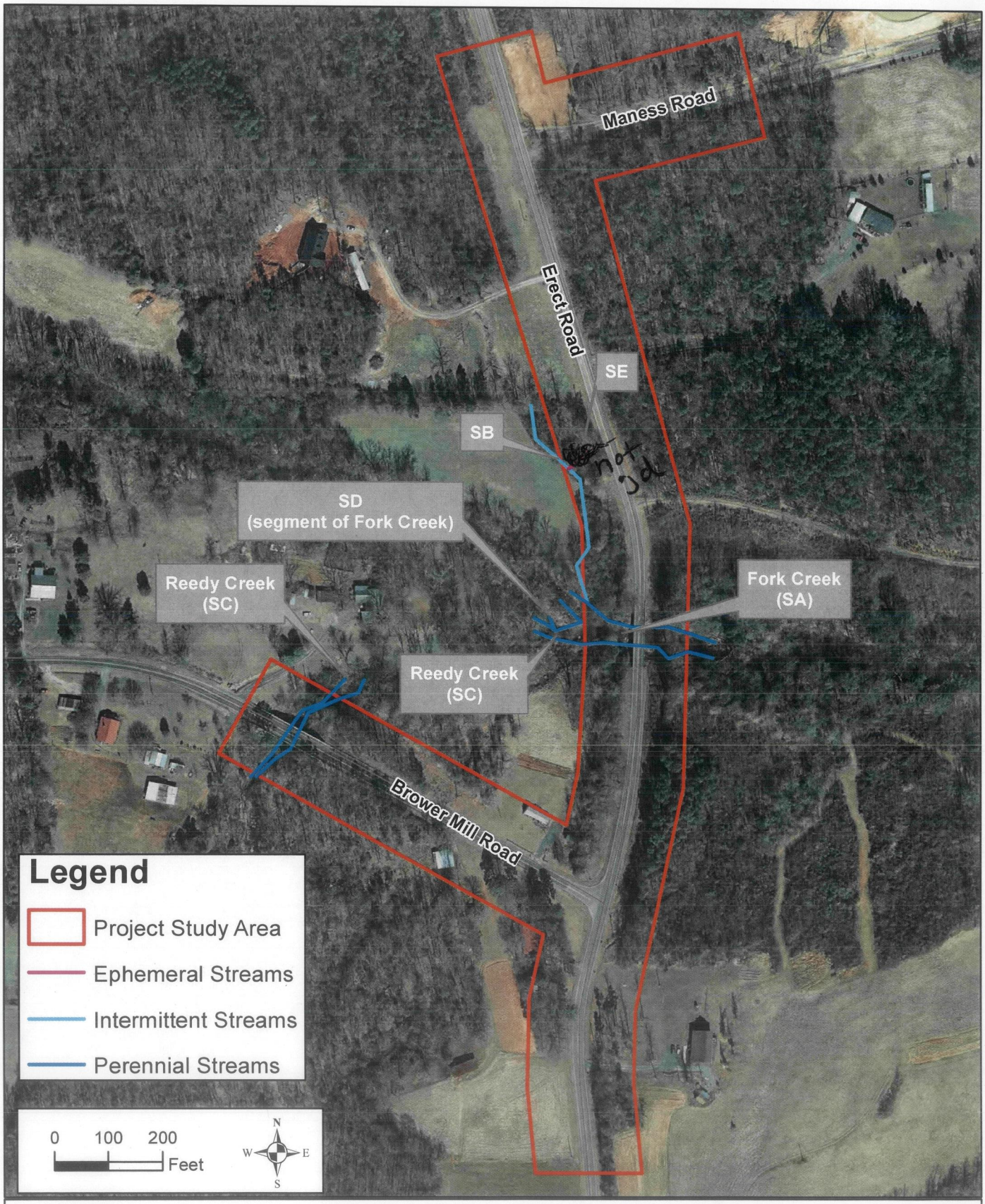
☒ Other information (please specify): NCDWQ Stream ID Form
USACE Stream Assessment Form

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.

4-25-12
Signature and date of
Regulatory Project Manager
(REQUIRED)

Beth Reed 03/23/2012
Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining
the signature is impracticable)

Site number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
Fork Creek (SA)	35.5276	-79.6416	Riverine	200 linear feet	non-section 10 – non-tidal
SB	35.5283	-79.6419	Riverine	418 linear feet	non-section 10 – non-tidal
Reedy Creek (SC)	35.5276	-79.6420	Riverine	232 linear feet	non-section 10 – non-tidal
SD	35.5277	-7906422	Riverine	72 linear feet	non-section 10 – non-tidal



North Carolina
Deparment
of
Transportation

Figure 3: Jurisdictional Features Map

TIP Project: B-4608

Bridge # 208 on SR 1003 (Erect Rd.) over Fork Creek

Randolph County, North Carolina

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-4608 (34833.1.2) **County(ies):** Randolph

General Project Information

Project No.:	B-4608 (34833.1.2)		**Project Type:**	Bridge Replacement		**Date:**	7/2/2013
NCDOT Contact:	Galen Cail		**Contractor / Designer:**	Galen Cail/Larry Rickard			
Address:	1020 Birch Ridge Dr. Raleigh, N.C. 27610		**Address:**	1020 Birch Ridge Dr. Raleigh, N.C. 27610			
Phone:	919.707.6711		**Phone:**	919.707.6711/919.707.6700			
Email:	gcail@ncdot.gov		**Email:**	gcail@ncdot.gov/cjlee@ncdot.gov			
City/Town:	Erect, NC		**County(ies):**	Randolph			
River Basin(s):	Cape Fear		**CAMA County?**	No			
Primary Receiving Water:	Fork Creek		**NCDWQ Stream Index No.:**				
NCDWQ Surface Water Classification for Primary Receiving Water	**Primary:**		Class C				
	Supplemental:		None	None			
Other Stream Classification:							
303(d) Impairments:							
Buffer Rules in Effect	N/A						

Project Description

Project Length (lin. Miles or feet):	0.218 miles	**Surrounding Land Use:**	Fields

	Proposed Project	**Existing Site**
Project Built-Upon Area (ac.)	0.68 ac.	0.49 ac.
Typical Cross Section Description:	10' Travel Lanes, 6' Shoulders & 4' paved. 2:1-4:1 Side Slopes	10' Travel Lanes, 2:1-4:1 Side Slopes
Average Daily Traffic (veh/hr/day):	Design/Future: 800 (2040)	Existing: 600 (2012)

General Project Narrative:

The project consists of replacing Bridge# 208 on SR 1003 (Erect Road) over Fork Creek. The approach work will consist of providing grass shoulders and guardrail.Bridge #208 existing three spans @ 40' each (120' total length) structure will be replaced with 1 @ 100' & 1 @ 40' - 39" Box Beam.

Best Mgmt. Practices:
-Promotion of sheet flow and infiltration with grassed shoulders.
-Storm Drain in NW quad outlets to rip rap pad.
-Storm Drain in SE quad outlets to 2' base rip rap ditch.
-Ditch in SE quad outlets to rip rap on embankment to prevent erosion.

References

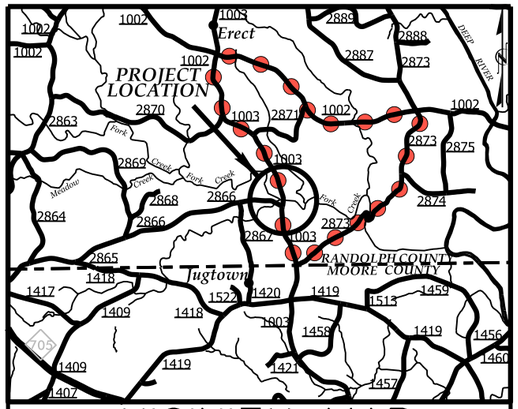
09/08/99

TIP PROJECT: B-4608

CONTRACT: C203410

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

See Sheet 1-A For Index of Sheets



VICINITY MAP
OFFSITE DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

RANDOLPH COUNTY

PERMIT DRAWING
SHEET 1 OF 6

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4608	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38433.1.2	BRZ-1003 (118)	PE

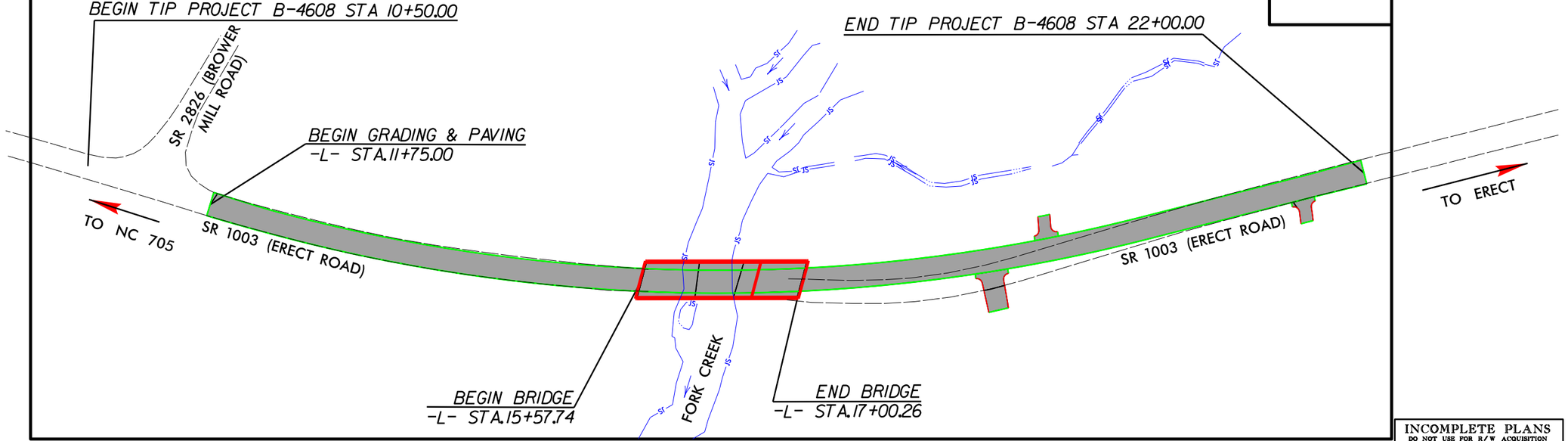
LOCATION: BRIDGE No. 208 ON SR 1003 (ERECT ROAD) OVER FORK CREEK

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

WETLAND AND SURFACE WATER IMPACTS PERMIT

4

NAD 83/86

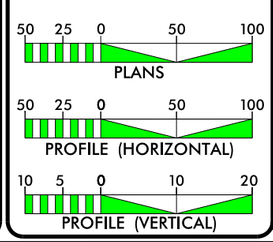


METHOD OF CLEARING III.
THIS PROJECT IS NOT WITHIN THE LIMITS OF ANY MUNICIPALITY.
DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K FACTOR AND NIGHTTIME VERTICAL CURVE SSD.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2012 = 600 vpd
ADT 2040 = 800 vpd
DHV = 13 %
D = 70 %
T = 7 % *
V = 50 MPH
* TTST 1% DUAL 6%
FUNC CLASS = LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4608 = 0.191 mi
LENGTH OF STRUCTURE TIP PROJECT B-4608 = 0.027 mi
TOTAL LENGTH OF TIP PROJECT B-4608 = 0.218 mi

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
August 16, 2013

LETTING DATE:
June 17, 2014

JAMES A. SPEER, PE
PROJECT ENGINEER

JOHN LANSFORD, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE:

ROADWAY DESIGN ENGINEER

SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

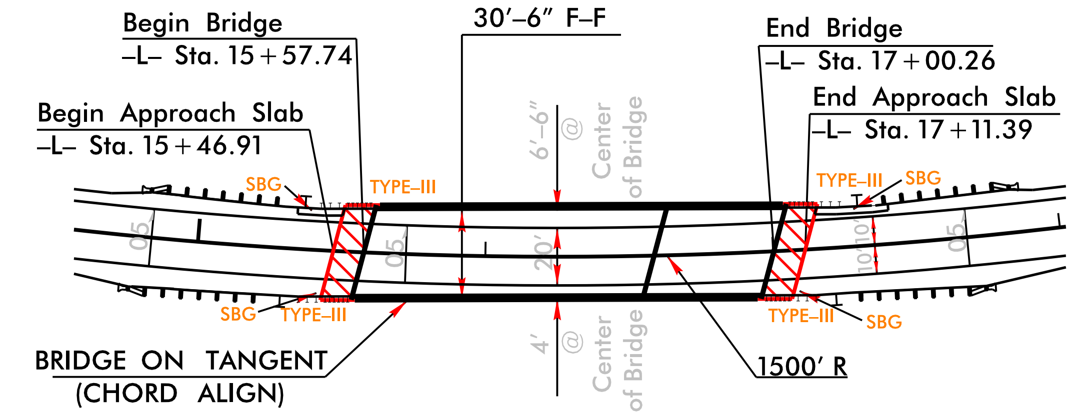
P.E.
STATE HIGHWAY DESIGN ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
B-4608	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

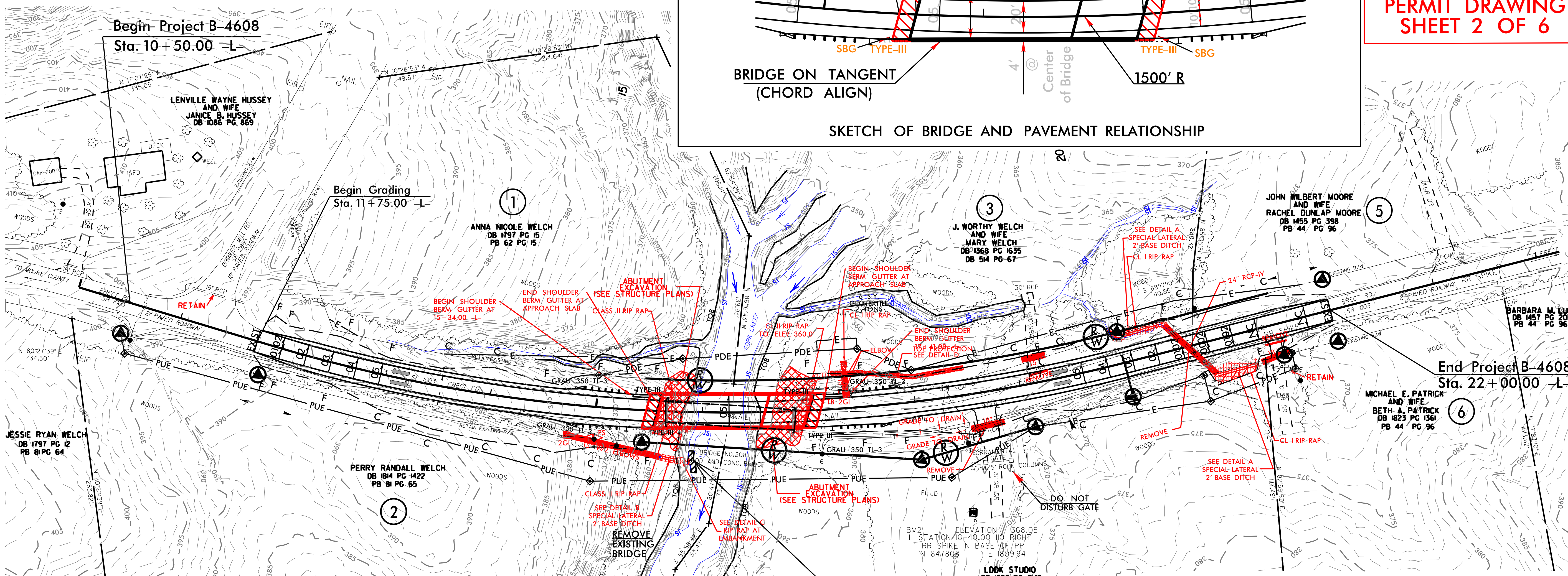
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 2 OF 6

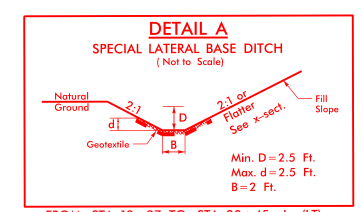


SKETCH OF BRIDGE AND PAVEMENT RELATIONSHIP

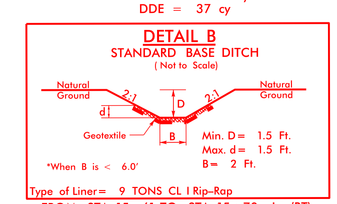
NAD 83/86



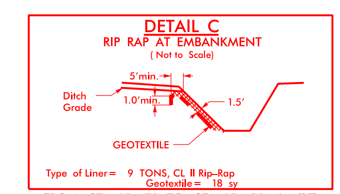
Begin Project B-4608
Sta. 10+50.00 -L-
Begin Grading
Sta. 11+75.00 -L-
LENVILLE WAYNE HUSSEY
AND WIFE
JANICE B. HUSSEY
DB 1086 PG 869
ANNA NICOLE WELCH
DB 1797 PG 15
PB 62 PG 15
J. WORTHY WELCH
AND WIFE
MARY WELCH
DB 1368 PG 1635
DB 514 PG 67
JOHN WILBERT MOORE
AND WIFE
RACHEL DUNLAP MOORE
DB 1455 PG 398
PB 44 PG 96
BARBARA M. LUCK
DB 1457 PG 201
PB 44 PG 96
MICHAEL E. PATRICK
AND WIFE
BETH A. PATRICK
DB 1823 PG 1361
PB 44 PG 96
JESSIE RYAN WELCH
DB 1797 PG 12
PB 81 PG 64
PERRY RANDALL WELCH
DB 1814 PG 1422
PB 81 PG 65
LOOK STUDIO
DB 1897 PG 3149
PB 44 PG 97
End Project B-4608
Sta. 22+00.00 -L-
BEGIN SHOULDER BERM GUTTER AT 15+34.00 -L-
END SHOULDER BERM GUTTER AT APPROACH SLAB
ABUTMENT EXCAVATION (SEE STRUCTURE PLANS)
CLASS II RIP RAP
BEGIN SHOULDER BERM GUTTER AT APPROACH SLAB
6 SY GEOTEXTILE
7 TONS CL I RIP RAP
CL II RIP RAP TO ELEV. 360.0
END SHOULDER BERM GUTTER
TOE PROTECTION SEE DETAIL D
SEE DETAIL A SPECIAL LATERAL 2' BASE DITCH
CL I RIP RAP
24" RCP-IV
SEE DETAIL B SPECIAL LATERAL 2' BASE DITCH
SEE DETAIL C RIP RAP AT EMBANKMENT
REMOVE EXISTING BRIDGE
BRIDGE NO. 208
DO NOT DISTURB GATE
BM2 ELEVATION = 368.05
L STATION 18+40.00 110' RIGHT
RR SPIKE IN BASE OF PP
N 647808 E 1809194
RETAIN
REMOVE
SITE 1



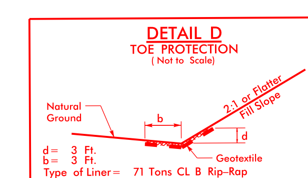
FROM STA. 19+97 TO STA. 20+45 -L- (LT)
Type of Liner = 64 TONS CL I Rip-Rap
Geotextile = 110 sy
DDE = 7 cy
FROM STA. 20+82 TO STA. 21+23 -L- (RT)
Type of Liner = 59 TONS CL I Rip-Rap
Geotextile = 97 sy
DDE = 37 cy



FROM STA. 15+61 TO STA. 15+70 -L- (RT)
SLOPE = 0.106 Ft./Ft.
LENGTH = 9 Ft.
GEOTEXTILE = 12 sy
DDE = 2.5 cy



FROM STA. 15+70 TO STA. 15+90 -L- (RT)



FROM STA. 17+20 TO STA. 18+50 -L- (LT)

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

100' 0' 100' 200' 300'
Scale: 1" = 100'

SEE SHEET 5 FOR -L- PROFILE

SEE SHEETS S-1 THRU S- FOR STRUCTURE PLANS

REVISIONS

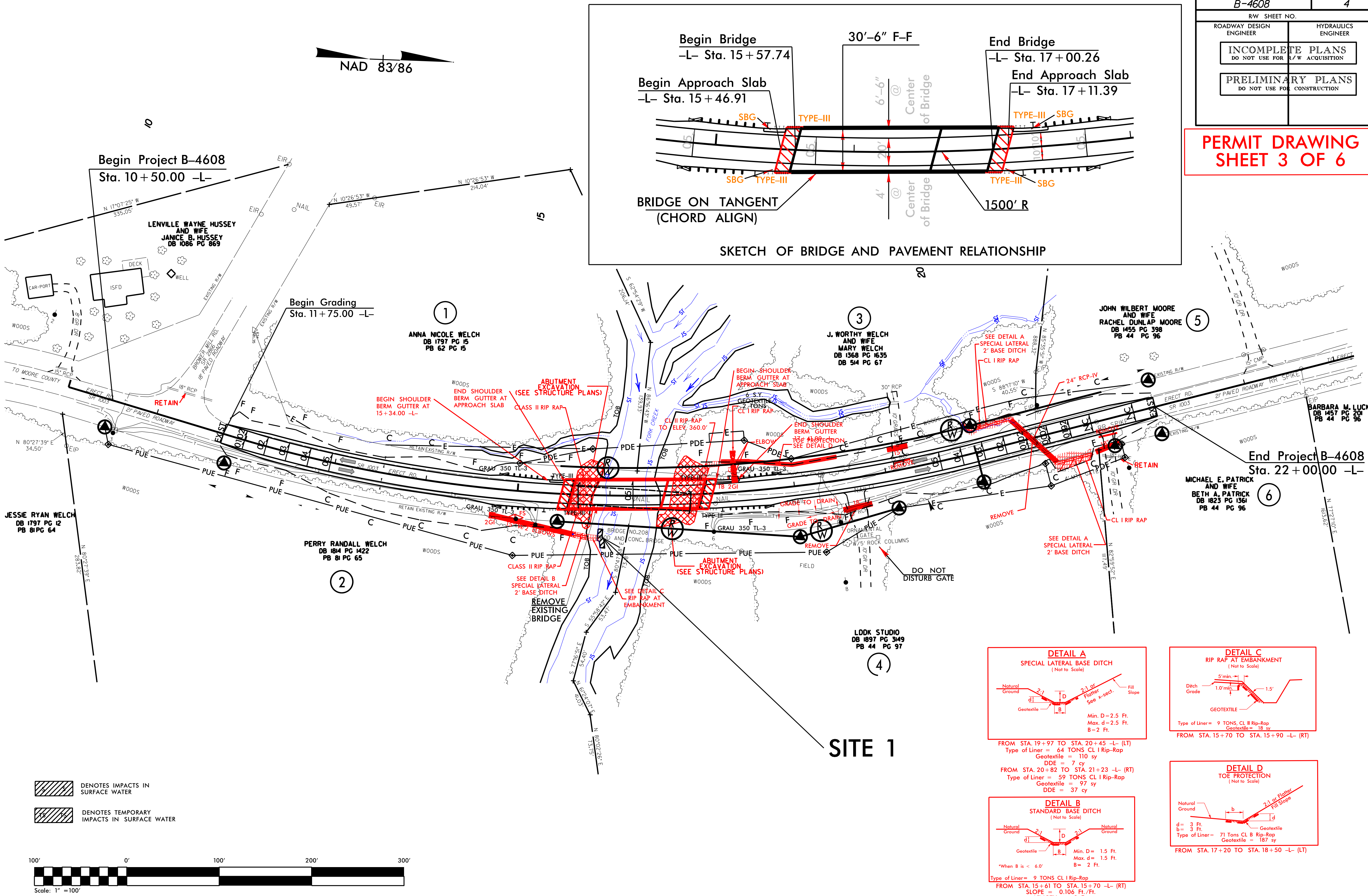
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4608	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

PERMIT DRAWING
SHEET 3 OF 6



NAD 83/86
Begin Bridge
-L- Sta. 15+57.74
30'-6" F-F
End Bridge
-L- Sta. 17+00.26
Begin Approach Slab
-L- Sta. 15+46.91
End Approach Slab
-L- Sta. 17+11.39
TYPE-III
SBG
BRIDGE ON TANGENT
(CHORD ALIGN)
1500' R
SKETCH OF BRIDGE AND PAVEMENT RELATIONSHIP
Begin Project B-4608
Sta. 10+50.00 -L-
LENVILLE WAYNE HUSSEY
AND WIFE
JANICE B. HUSSEY
DB 1086 PG 869
Begin Grading
Sta. 11+75.00 -L-
ANNA NICOLE WELCH
DB 1797 PG 15
PB 62 PG 15
J. WORTHY WELCH
AND WIFE
MARY WELCH
DB 1368 PG 1635
DB 514 PG 67
JOHN WILBERT MOORE
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RACHEL DUNLAP MOORE
DB 1455 PG 398
PB 44 PG 96
BARBARA M. LUCK
DB 1457 PG 201
PB 44 PG 96
End Project B-4608
Sta. 22+00.00 -L-
MICHAEL E. PATRICK
AND WIFE
BETH A. PATRICK
DB 1823 PG 1361
PB 44 PG 96
JESSIE RYAN WELCH
DB 1797 PG 12
PB 81 PG 64
PERRY RANDALL WELCH
DB 1814 PG 1422
PB 81 PG 65
LDDK STUDIO
DB 1897 PG 3149
PB 44 PG 97
BEGIN SHOULDER BERM GUTTER AT 15+34.00 -L-
END SHOULDER BERM GUTTER AT APPROACH SLAB
ABUTMENT EXCAVATION (SEE STRUCTURE PLANS)
CLASS II RIP RAP
CL II RIP-RAP TO ELEV. 360.0'
BEGIN SHOULDER BERM GUTTER AT APPROACH SLAB
6 S.Y. GEOTEXTILE
2 TONS CL I RIP RAP
END SHOULDER BERM GUTTER
TOE PROTECTION SEE DETAIL D
SEE DETAIL A SPECIAL LATERAL 2' BASE DITCH
CL I RIP RAP
24" RCP-IV
RETAIN
REMOVE
SEE DETAIL B SPECIAL LATERAL 2' BASE DITCH
REMOVE EXISTING BRIDGE
SEE DETAIL C RIP RAP AT EMBANKMENT
ABUTMENT EXCAVATION (SEE STRUCTURE PLANS)
GRADE TO DRAIN
DO NOT DISTURB GATE
SITE 1
DETAIL A
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Min. D = 2.5 Ft.
Max. d = 2.5 Ft.
B = 2 Ft.
FROM STA. 19+97 TO STA. 20+45 -L- (LT)
Type of Liner = 64 TONS CL I Rip-Rap
Geotextile = 110 sy
DDE = 7 cy
FROM STA. 20+82 TO STA. 21+23 -L- (RT)
Type of Liner = 59 TONS CL I Rip-Rap
Geotextile = 97 sy
DDE = 37 cy
DETAIL B
STANDARD BASE DITCH
(Not to Scale)
Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2 Ft.
Type of Liner = 9 TONS CL I Rip-Rap
FROM STA. 15+61 TO STA. 15+70 -L- (RT)
SLOPE = 0.106 Ft./Ft.
LENGTH = 9 Ft.
GEOTEXTILE = 12 sy
DDE = 2.5 cy
DETAIL C
RIP RAP AT EMBANKMENT
(Not to Scale)
Type of Liner = 9 TONS, CL II Rip-Rap
Geotextile = 18 sy
FROM STA. 15+70 TO STA. 15+90 -L- (RT)
DETAIL D
TOE PROTECTION
(Not to Scale)
d = 3 Ft.
b = 3 Ft.
Type of Liner = 71 Tons CL B Rip-Rap
Geotextile = 187 sy
FROM STA. 17+20 TO STA. 18+50 -L- (LT)
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
Scale: 1" = 100'

REVISIONS

8/17/99

SEE SHEET 5 FOR -L- PROFILE

SEE SHEETS S-1 THRU S- FOR STRUCTURE PLANS

PROJECT REFERENCE NO.	SHEET NO.
B-4608	4
R/W 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 6**

▨ S S — DENOTES IMPACTS IN SURFACE WATER

▨ TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

50' 0' 50' 100' 150'

Scale: 1" = 50'

PROJECT REFERENCE NO.	SHEET NO.
B-4608	5

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 5 OF 6

-L-

*DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K FACTOR AND NIGHTTIME SSD

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	4900	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	358.4	FT
BASE DISCHARGE	=	7382	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	361.50	FT
OVERTOPPING DISCHARGE	=	9000+	CFS
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING ELEVATION	=	364.7 (AT SHLD. SAG STA.18+44.02)	FT
DATE OF SURVEY	=	1/2/2013	
W.S.ELEVATION AT DATE OF SURVEY	=	349.3	FT

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	15+90 to 15+95 -L- RT	Bank Stabilization							<0.01	20		
TOTALS:									<0.01	20		

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

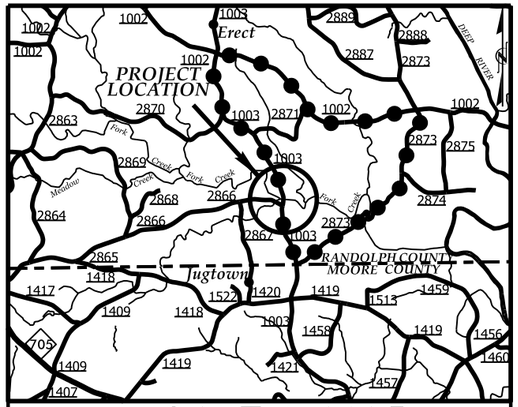
RANDOLPH COUNTY
WBS - 38433.1.1 (B-4608)

09/08/99

TIP PROJECT: B-4608

CONTRACT: C203410

See Sheet 1-A For Index of Sheets



VICINITY MAP
OFFSITE DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

RANDOLPH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4608	1	

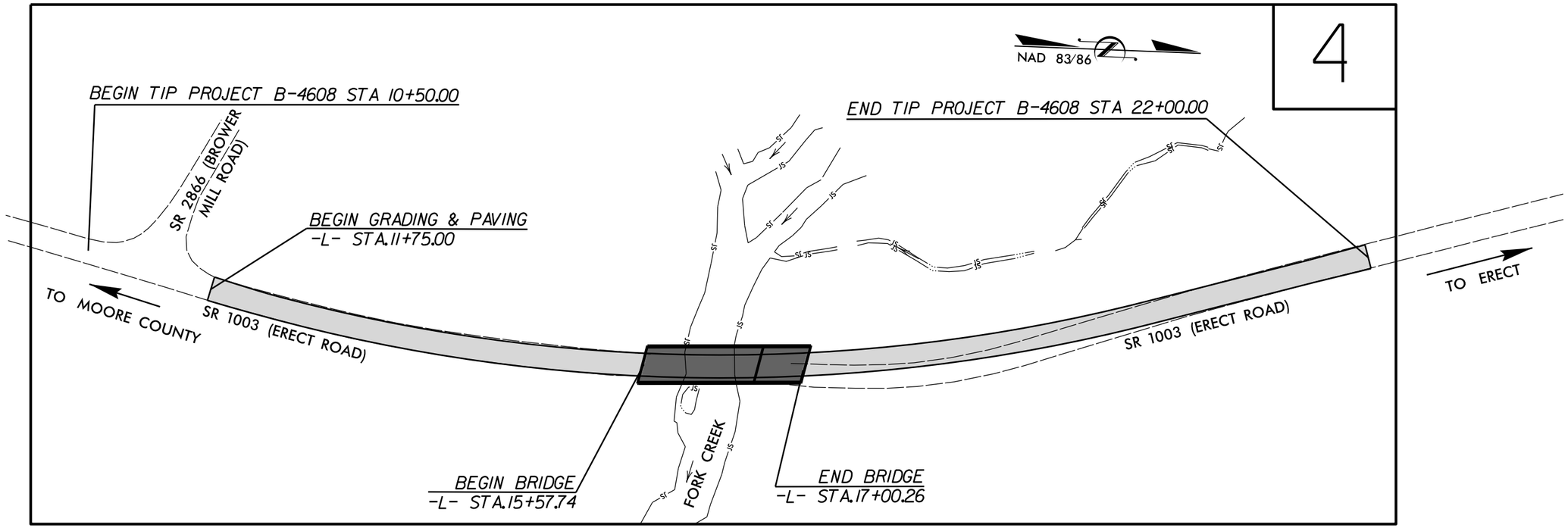
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38433.1.2	BRZ-1003(118)	PE
38433.2.1	BRZ-1003(118)	ROW
38433.2.U1	BRZ-1003(118)	UTILITIES

LOCATION: BRIDGE No. 208 ON SR 1003 (ERECT ROAD) OVER FORK CREEK

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

4

NAD 83/86



METHOD OF CLEARING III.
THIS PROJECT IS NOT WITHIN THE LIMITS OF ANY MUNICIPALITY.
DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K FACTOR AND NIGHTTIME VERTICAL CURVE SSD.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2012 = 600 vpd
ADT 2040 = 800 vpd
DHV = 13 %
D = 70 %
T = 7 % *
V = 50 MPH
* TTST 1% DUAL 6%
FUNC CLASS =
MINOR COLLECTOR
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4608 = 0.191 mi
LENGTH OF STRUCTURE TIP PROJECT B-4608 = 0.027 mi
TOTAL LENGTH OF TIP PROJECT B-4608 = 0.218 mi

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
August 15, 2013

LETTING DATE:
June 17, 2014

JAMES A. SPEER, PE
PROJECT ENGINEER

JOHN LANSFORD, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE:

ROADWAY DESIGN ENGINEER

SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

15-AUG-2013 14:01
R:\Roadway\Proj\b4608_rdy_tsh.dgn
$$$$USERNAME$$$$

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
B-4608	1-B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- 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 — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- 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 — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed 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 — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

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

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

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

SANITARY SEWER:

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

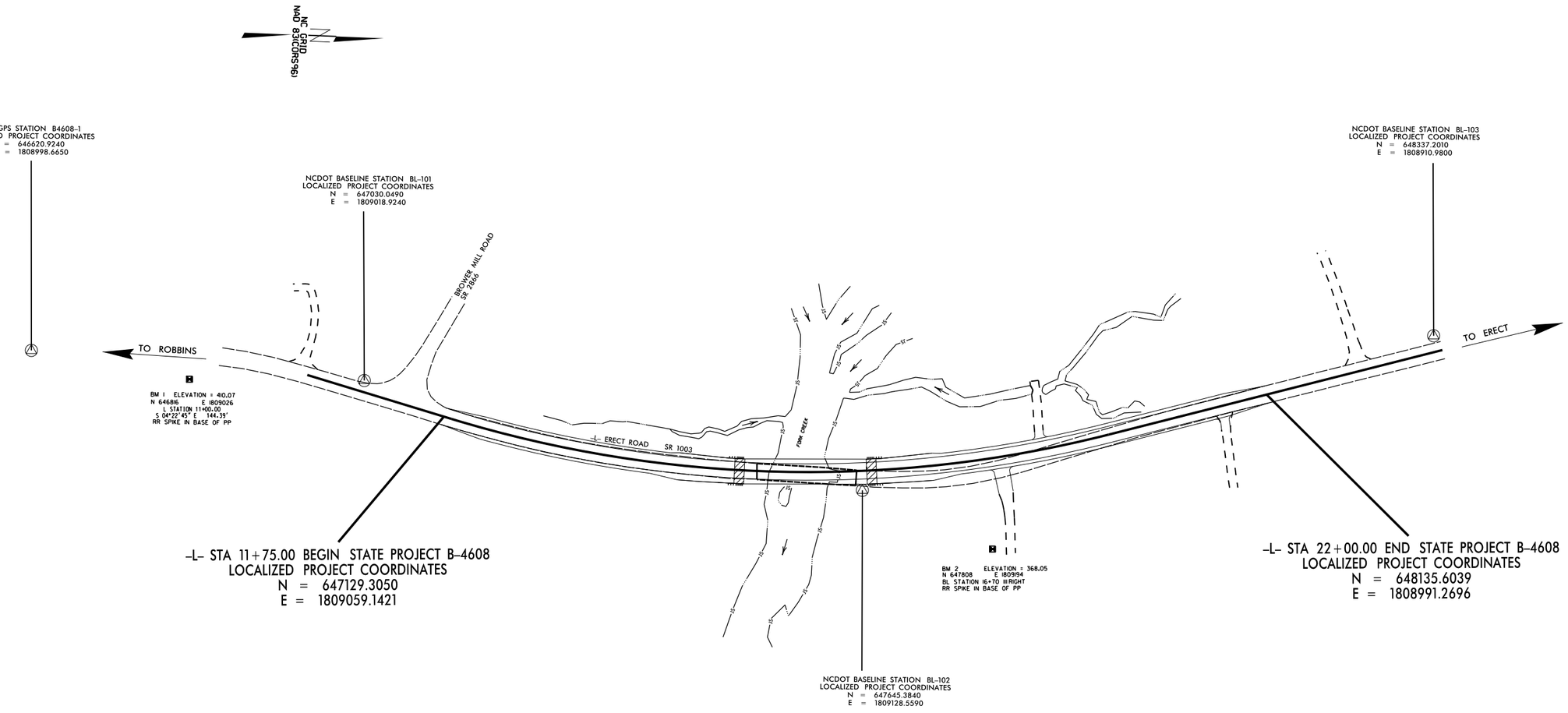
MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- 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.

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4608	1C
Location and Surveys	

SURVEY CONTROL SHEET B-4608



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4608-2"
WITH NAD 83/CORS96 STATE PLANE GRID COORDINATES OF
NORTHING: 645206.9805(ft) EASTING: 1809123.9834(ft)
ELEVATION: 463.083(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99986757
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4608-2" TO -L- STATION 11+75.00 IS
N 01° 55' 54.8" W 1923.418'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. *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/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B4608_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. NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	B4608-1	646620.9240	1808998.6650	416.97	OUTSIDE PROJECT LIMITS	
101	BL-101	647030.0490	1809018.9240	398.45	10+68.81	13.87 LT
102	BL-102	647645.3840	1809128.5590	363.41	16+93.68	23.80 RT
103	BL-103	648337.2010	1808910.9800	388.95	24+16.11	19.57 LT

BM1 ELEVATION = 410.07
N 646816 E 1809026
L STATION 11+00.00
S 04°22'45" E DIST 144.39
RR SPIKE IN BASE OF PP

BM2 ELEVATION = 368.05
N 647808 E 1809194
L STATION 16+40.00 110 RIGHT
RR SPIKE IN BASE OF PP

NOTE: DRAWING NOT TO SCALE

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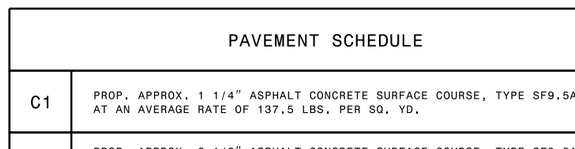
6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4608	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

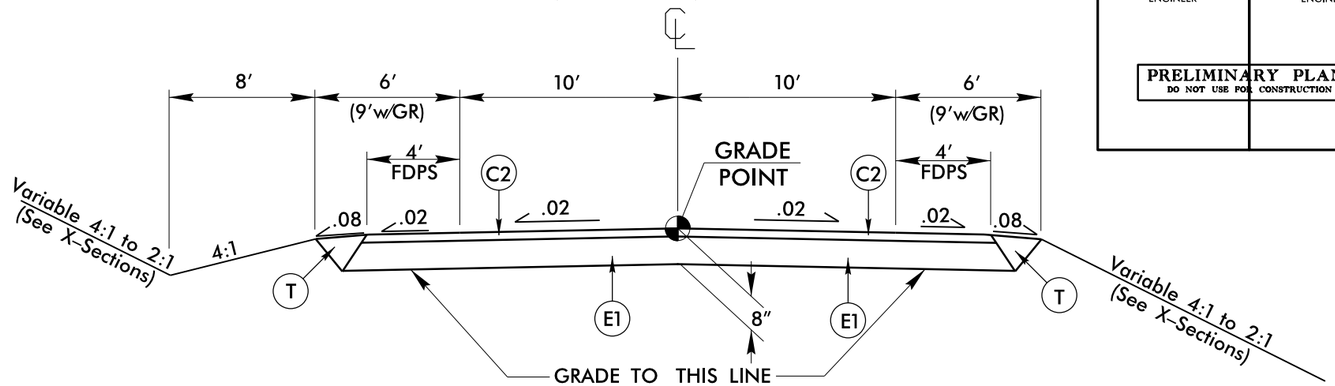
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 5 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R1	PROP. SHOULDER BERM GUTTER.
R2	PROP. SHOULDER BERM CURB
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	PROP. ASPHALT WEDGING.

NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE INDICATED.



Wedging Detail For Resurfacing

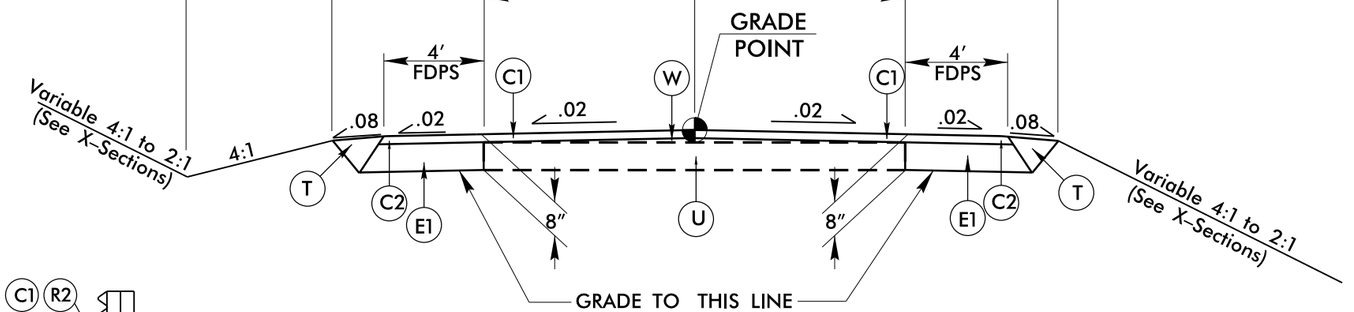
–L– (SR 1003) – ERECT RD



TYPICAL SECTION NO. 1

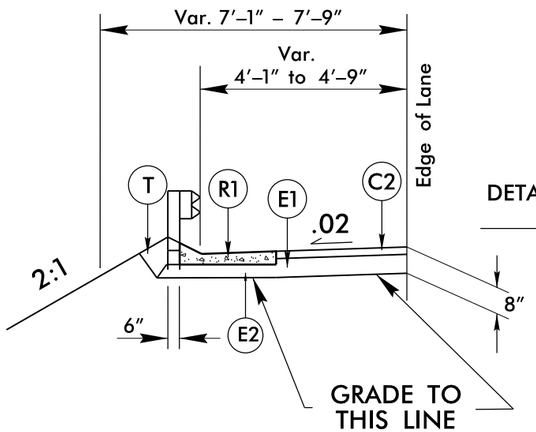
USE TYPICAL SECTION NO. 1
–L– STA. 11+75.00 TO –L– STA. 15+57.74 (BRIDGE)
–L– STA. 17+00.26 (BRIDGE) TO –L– STA. 21+00.00

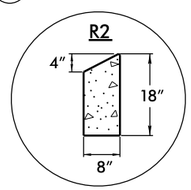
–L– (SR 1003) – ERECT RD

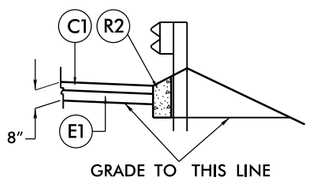


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
–L– STA. 21+00.00 TO –L– STA. 22+00.00





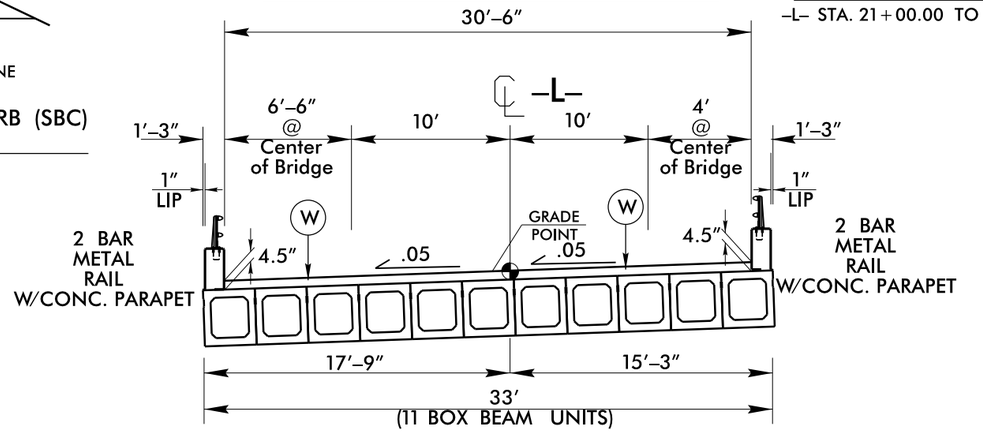


DETAIL SHOWING SPECIAL SHOULDER BERM CURB (SBC) ON TOP OF SUBGRADE

–L– STA. 15+41.70 TO –L– STA. 15+42.80 (RT)
–L– STA. 17+07.30 TO –L– STA. 17+08.30 (RT)

–L– STA. 15+36 TO –L– STA. 15+51 +/– (BEGIN APPROACH SLAB) (LT)
–L– STA. 17+15.5 +/– (END APPROACH SLAB) TO –L– STA. 17+41 (LT)

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



TYPICAL SECTION NO. 3

BRIDGE TYPICAL SECTION

SR 1003 (ERECT RD) IS A CONNECTOR ROUTE BETWEEN BICYCLE ROUTE #6, THE PIEDMONT SPUR, WITH BICYCLE ROUTES IN MOORE COUNTY

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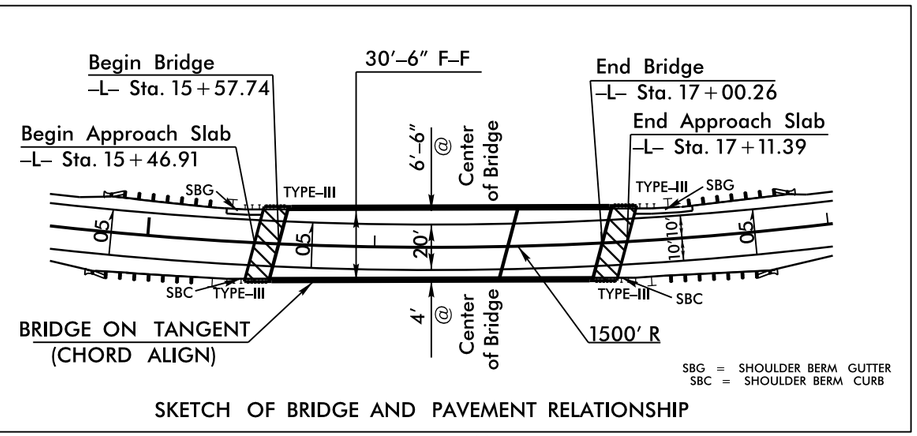
PROJECT REFERENCE NO.	SHEET NO.
B-4608	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

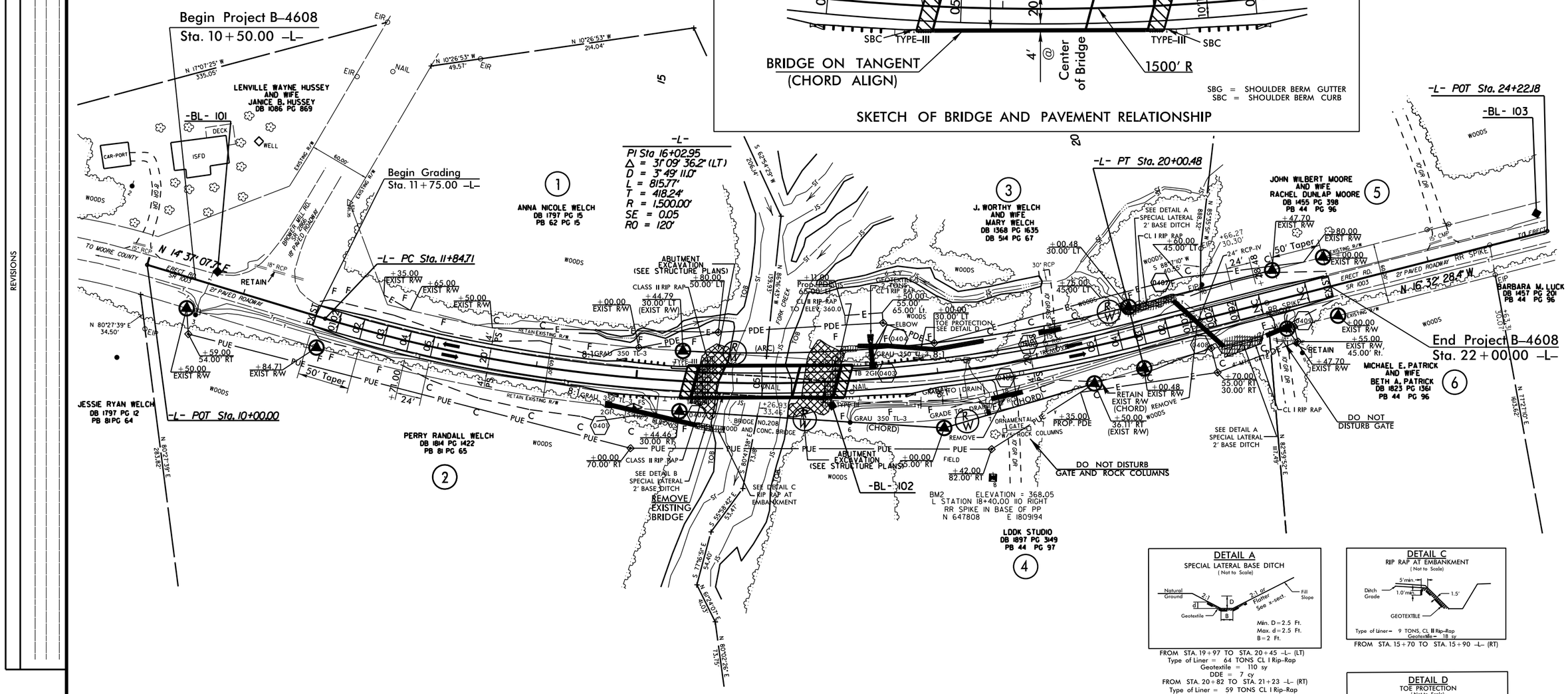
8/17/99

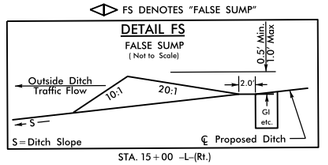
REVISIONS

NAD 83/86

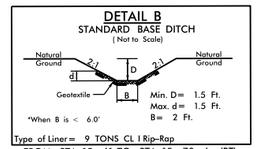


SKETCH OF BRIDGE AND PAVEMENT RELATIONSHIP



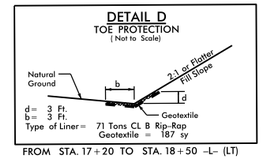


FROM STA. 19+97 TO STA. 20+45 -L- (LT)
Type of Liner = 64 TONS CL I Rip-Rap
Geotextile = 110 sy
DDE = 7 cy
FROM STA. 20+82 TO STA. 21+23 -L- (RT)
Type of Liner = 59 TONS CL I Rip-Rap
Geotextile = 97 sy
DDE = 37 cy



Type of Liner = 9 TONS CL I Rip-Rap
FROM STA. 15+61 TO STA. 15+70 -L- (RT)
SLOPE = 0.106 Ft./Ft.
LENGTH = 9 Ft.
GEOTEXTILE = 12 sy
DDE = 2.5 cy

Type of Liner = 9 TONS, CL II Rip-Rap
Geotextile = 18 sy
FROM STA. 15+70 TO STA. 15+90 -L- (RT)



d = 3 Ft.
b = 3 Ft.
Type of Liner = 71 Tons CL B Rip-Rap
Geotextile = 187 sy
FROM STA. 17+20 TO STA. 18+50 -L- (LT)

SEE SHEET 5 FOR -L- PROFILE

SEE SHEETS S-1 THRU S- FOR STRUCTURE PLANS

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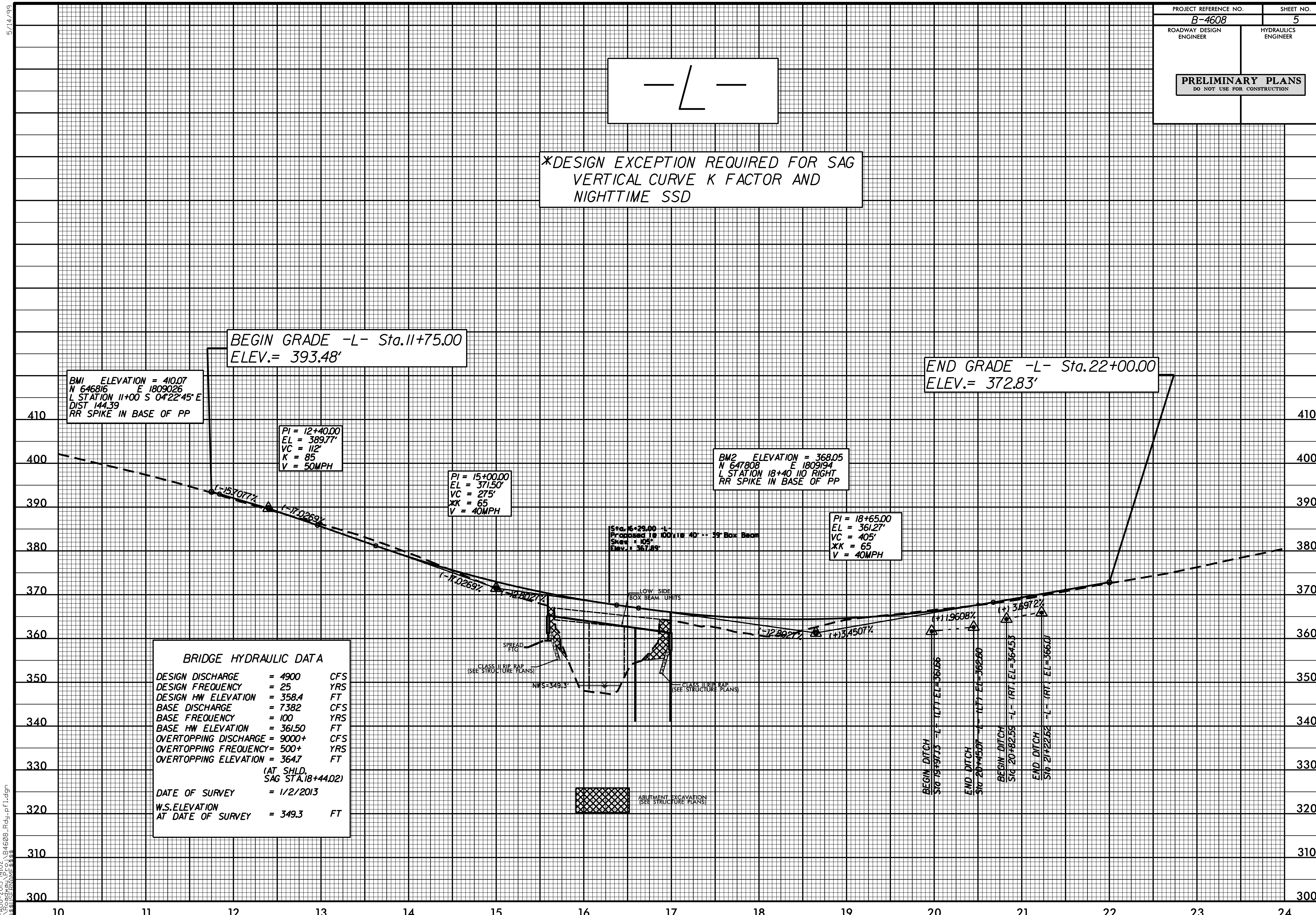
PROJECT REFERENCE NO.	SHEET NO.
B-4608	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

*DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K FACTOR AND NIGHTTIME SSD



BEGIN GRADE -L- Sta.11+75.00
ELEV.= 393.48'
END GRADE -L- Sta.22+00.00
ELEV.= 372.83'
BM1 ELEVATION = 410.07
N 646816 E 1809026
L STATION 11+00 S 04°22'45" E
DIST 144.39
RR SPIKE IN BASE OF PP
PI = 12+40.00
EL = 389.77'
VC = 112'
K = 85
V = 50MPH
PI = 15+00.00
EL = 371.50'
VC = 275'
*K = 65
V = 40MPH
BM2 ELEVATION = 368.05
N 647808 E 1809194
L STATION 18+40 110 RIGHT
RR SPIKE IN BASE OF PP
PI = 18+65.00
EL = 361.27'
VC = 405'
*K = 65
V = 40MPH
Sta.16+29.00 -L-
Proposed 1@ 100';1@ 40' -- 39" Box Beam
Skew = 105°
Elev. = 367.89'
LOW SIDE
BOX BEAM UNITS
(-)15.7077%
(-)17.0269%
(-)17.0269%
(-)12.8027%
(-)12.8027%
(+)3.4507%
(+)1.9608%
(+) 3.6972%
SPREAD FTG
CLASS II RIP RAP (SEE STRUCTURE PLANS)
NWS=349.3'
CLASS II RIP RAP (SEE STRUCTURE PLANS)
ABUTMENT EXCAVATION (SEE STRUCTURE PLANS)
BEGIN DITCH Sta 19+91.15 -L- (LT) EL=361.66
END DITCH Sta 20+45.07 -L- (LT) EL=362.60
BEGIN DITCH Sta 20+82.59 -L- (RT) EL=364.53
END DITCH Sta 21+22.62 -L- (RT) EL=366.01
410
400
390
380
370
360
350
340
330
320
310
300
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 4900	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 358.4	FT
BASE DISCHARGE	= 7382	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 361.50	FT
OVERTOPPING DISCHARGE	= 9000+	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 364.7 (AT SHLD. SAG STA.18+44.02)	FT
DATE OF SURVEY	= 1/2/2013	
W.S. ELEVATION AT DATE OF SURVEY	= 349.3	FT

5/14/99

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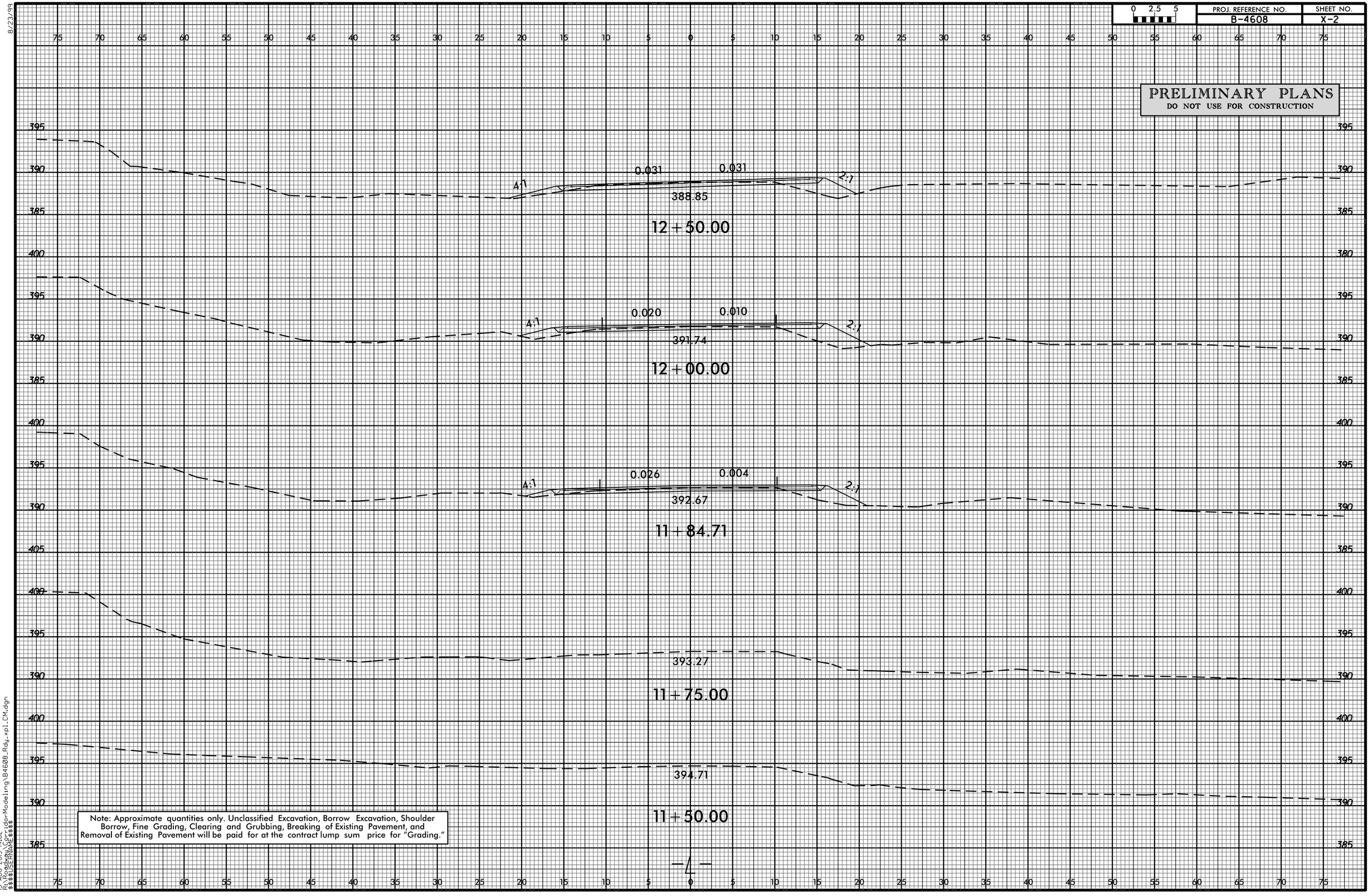
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4608	X-2

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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

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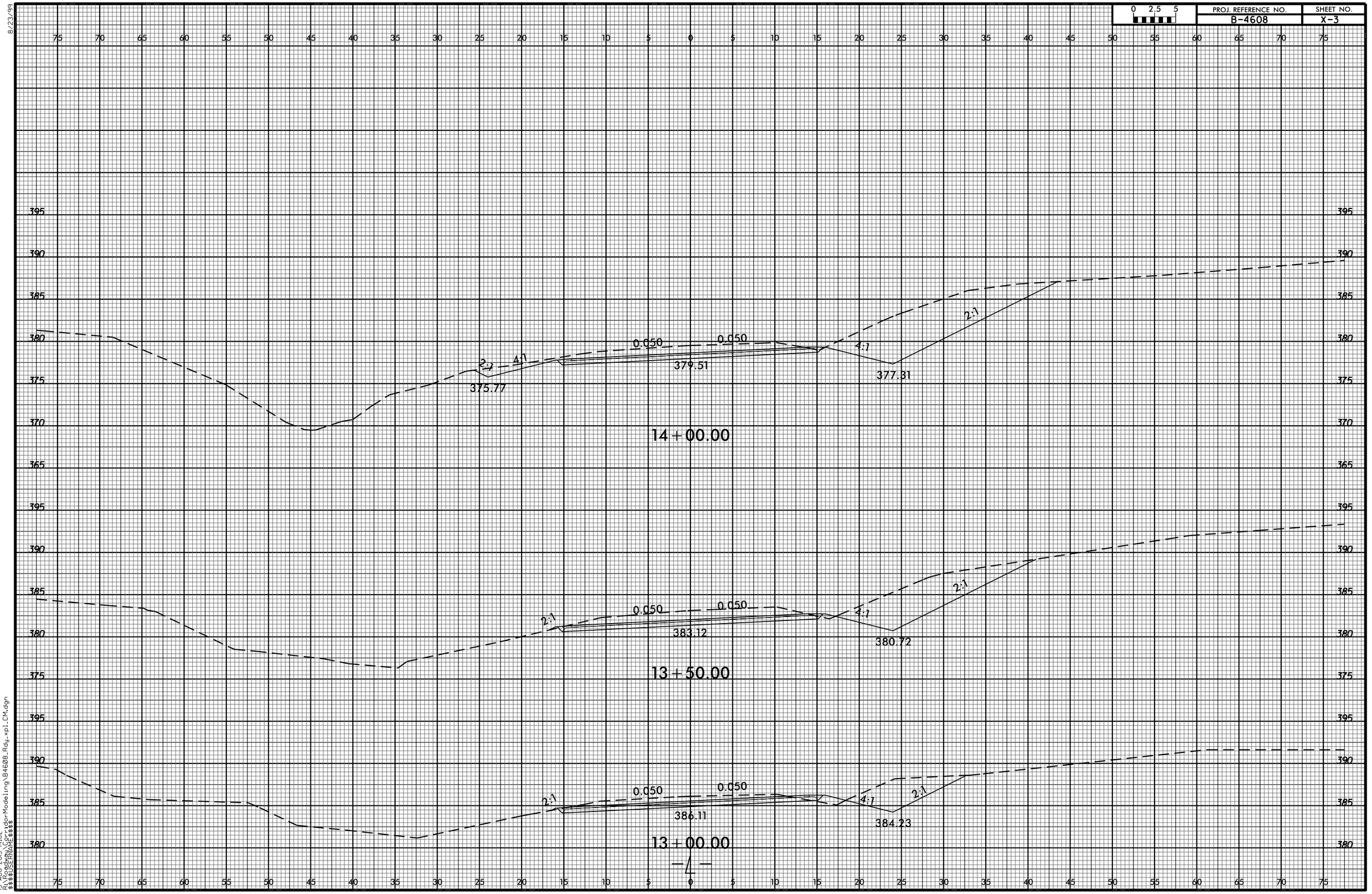
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4608	X-3



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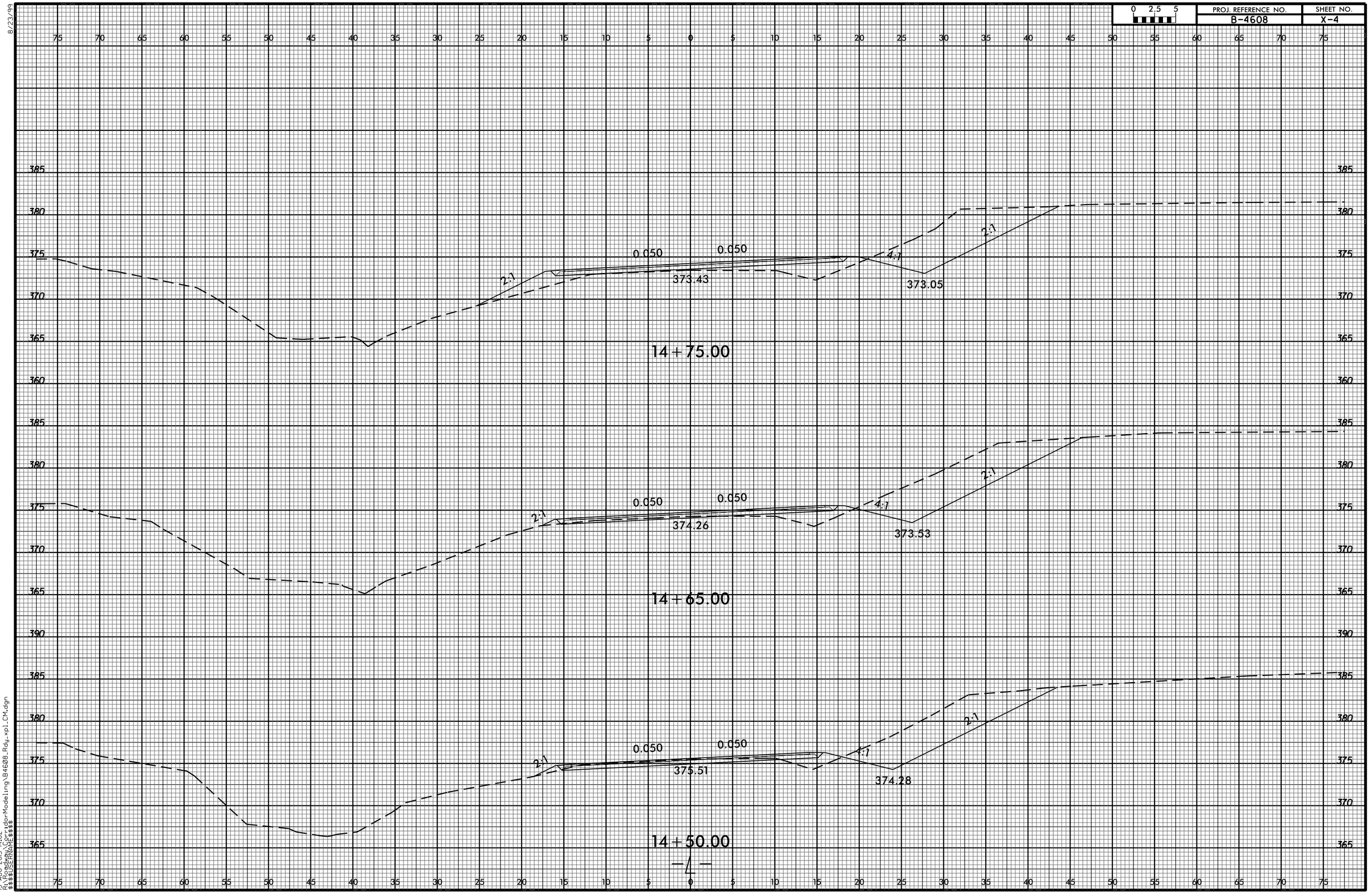
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4608	X-4



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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4608	X-5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

380 375 370 365 360

0.050 0.050 2:1 4:1 2:1 371.40 371.77

15+00.00

0.050 0.050 2:1 4:1 2:1 372.14 372.23

14+90.86

0.050 0.050 2:1 4:1 2:1 372.61 372.55

14+85.00

—4—

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4608	X-6

0.050 0.050

352.63

16+50.00

0.050 0.050

348.07

16+00.00

369.97

0.050 0.050

2:1 2:1

367.97

15+50.00

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4608	X-7

18+50.00

0.050 0.050 6:1 2:1 4:1 361.54 361.85

18+00.00

0.050 0.050 9.27:1 2:1 360.70

17+50.00

0.050 0.050 2:1 2:1 362.55

17+00.00

0.050 0.050 2:1 2:1 364.09

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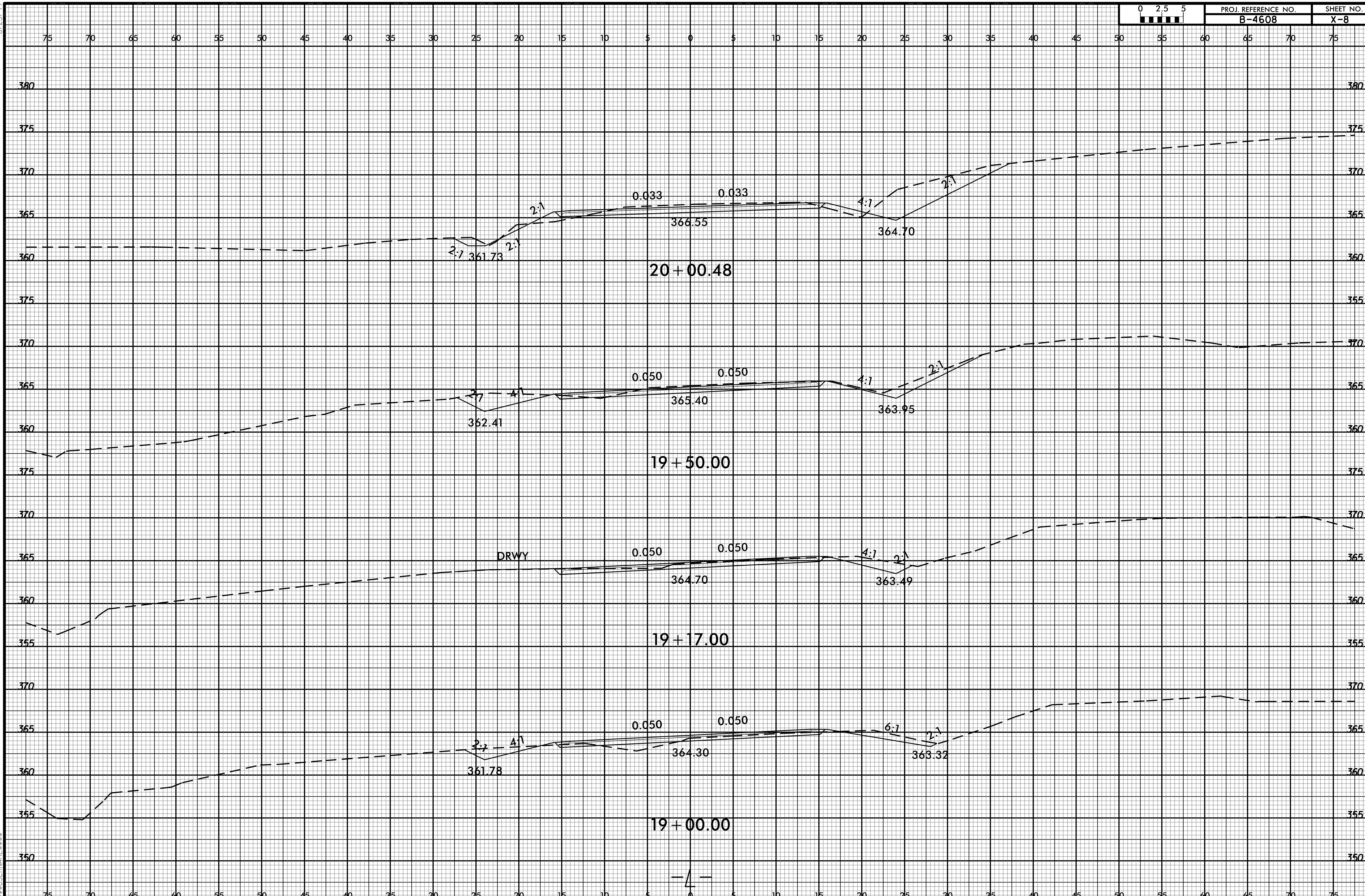
PROJ. REFERENCE NO.	SHEET NO.
B-4608	X-8



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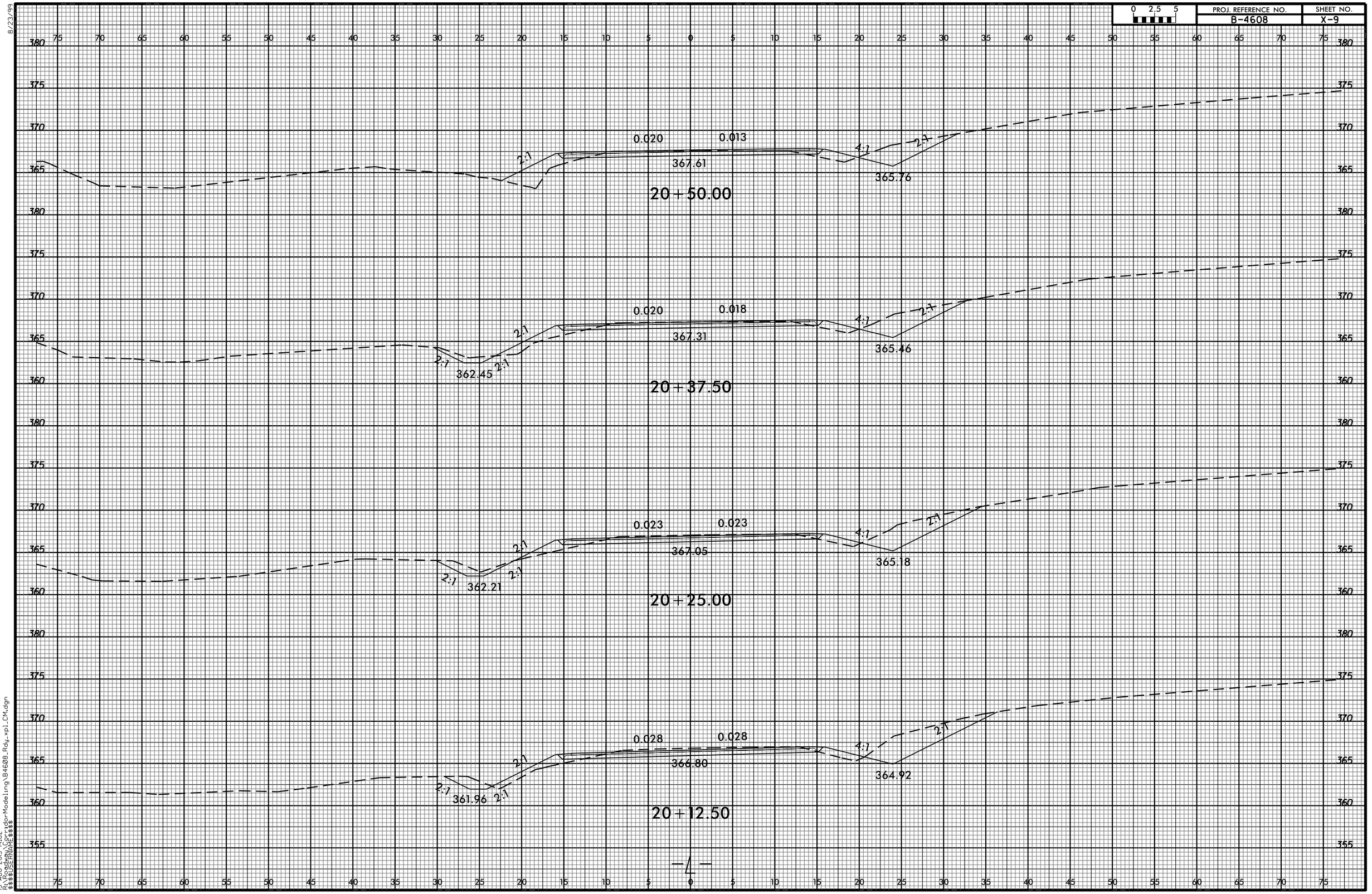
	B-4608	X-9



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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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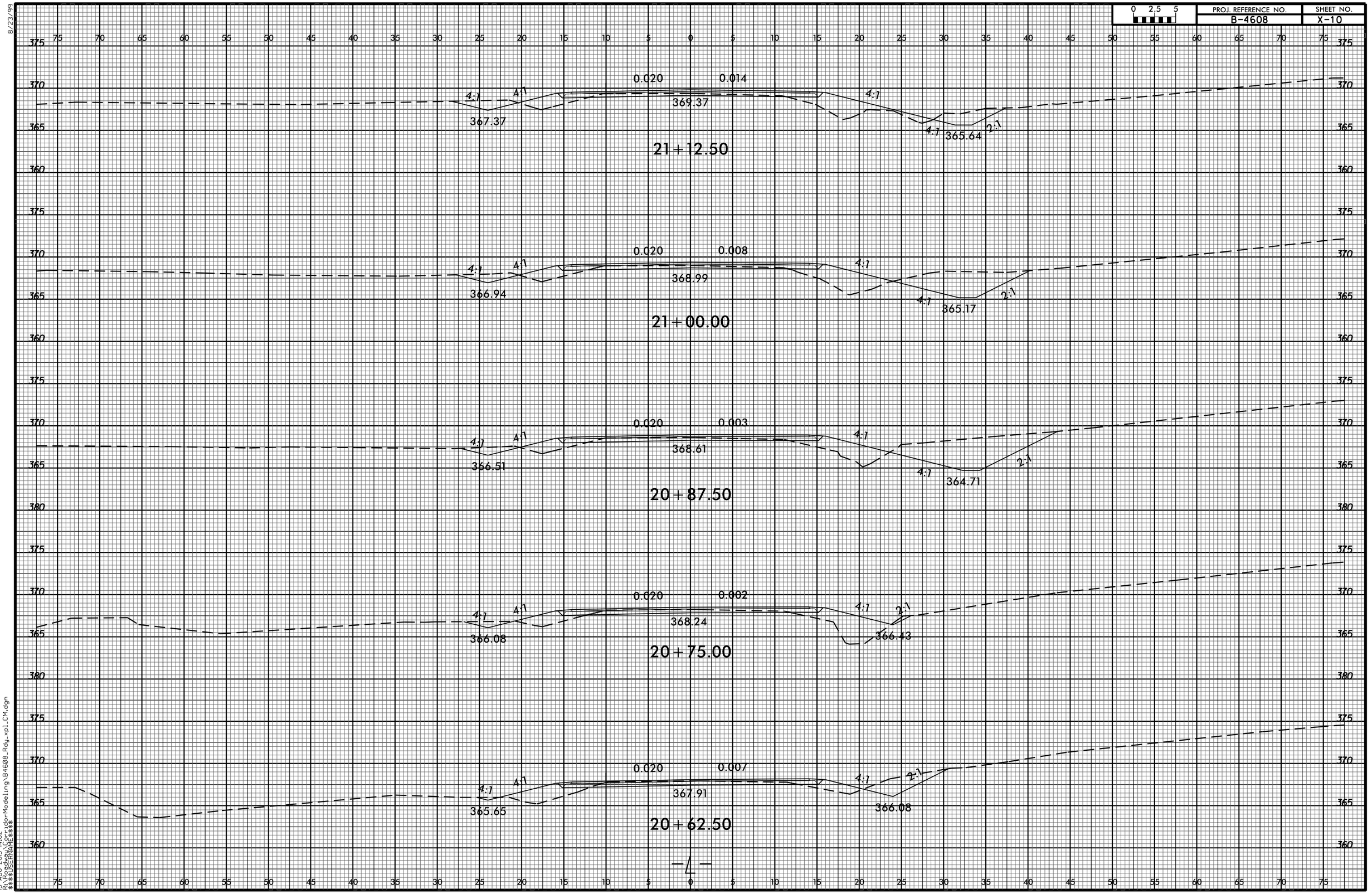

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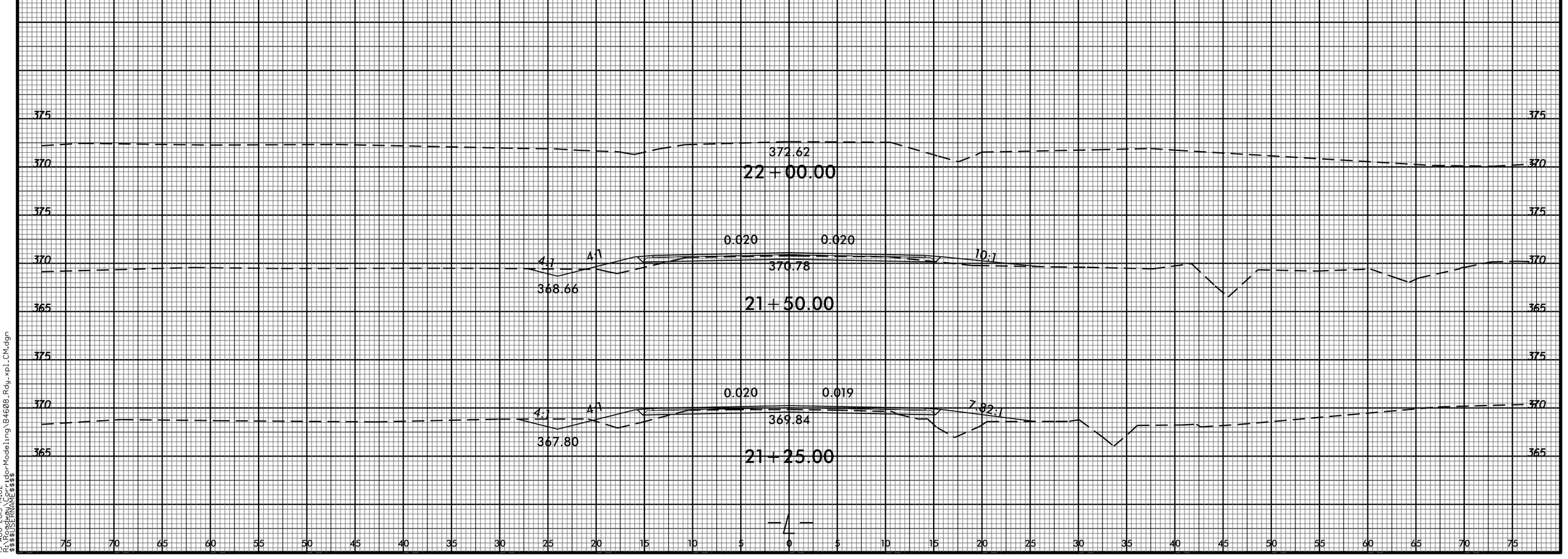
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4608	X-11



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