



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI
SECRETARY

May 29, 2012

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 Permits 13 and 33, and Section 401 Water Quality Certification**, for the Replacement of Bridge No. 46 on SR 1419 (Steele St.) over Hitchcock Creek in Richmond County, North Carolina. TIP No. B-4615. Federal Aid Project No. BRSTP-1419(3).

Debit \$240.00 from WBS Element 38436.1.1.

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 46 over Hitchcock Creek on SR 1419 (Steele St.) in Richmond County. The project involves replacement of the existing 121-foot structure with a 152-foot long bridge in the same location. There will be 22 feet of bank stabilization and 0.02 acre of temporary stream impacts due to a temporary causeway on this project.

Please find enclosed the Pre-Construction Notification (PCN) form, stormwater management plan, permit drawings, and design plans for the above referenced project. A Programmatic Categorical Exclusion (CE) was completed for this project on April 22, 2010 and distributed shortly thereafter. Additional copies are available upon request.

The proposed let date for the project is February 19, 2013 with a review date of January 1, 2013. 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:
<http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html>

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Amy James at aejames@ncdot.gov or (919) 707-6129.

Sincerely,

A handwritten signature in black ink, appearing to read "G. J. Thorpe". The signature is fluid and cursive.

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

cc: NCDOT Permit Application Standard Distribution List



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

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	<input checked="" type="checkbox"/> Section 404 Permit <input type="checkbox"/> Section 10 Permit	
1b. Specify Nationwide Permit (NWP) number: 13 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No	For the record only for Corps Permit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.		<input 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 type="checkbox"/> No

2. Project Information

2a. Name of project:	Replacement of Bridge no. 46 over Hitchcock Creek on SR 1419 (Steele St.)
2b. County:	Richmond
2c. Nearest municipality / town:	Rockingham
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-4615

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) 707-6129
3g. Fax no.:	(919) 212-5785
3h. Email address:	aejames@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: 34.948643 (DD.DDDDDD) Longitude: - 79.772265 (-DD.DDDDDD)
1c. Property size:	2.4 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Hitchcock Creek
2b. Water Quality Classification of nearest receiving water:	C
2c. River basin:	Yadkin-Pee Dee
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: Land use in the project vicinity consists primarily of commercial and residential uses with forested areas along stream corridors.	
3b. List the total estimated acreage of all existing wetlands on the property: 0.2 acre	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 978 linear feet	
3d. Explain the purpose of the proposed project: To replace a structurally deficient bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 121-foot bridge with a 152-foot, 3 span, cored slab bridge with the use of a temporary workpad. The bridge will remain on the existing alignment with an off-site detour during construction. 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: While a jurisdictional determination was requested, the USACE elected not to verify jurisdictional resources until permitting.	<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 type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): NCDOT (Erica McLamb)	Agency/Consultant Company: Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation.	
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 type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 2 <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 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					X Permanent X 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 checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank stabilization	Hitchcock Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	45	16
Site 2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank stabilization	Hitchcock Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	45	6
Site 3 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary workpad	Hitchcock Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	45	57
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						22 Perm 57 Temp

3i. Comments: 42 sq. ft. of impacts due to piers.

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?

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?			<input type="checkbox"/> Neuse <input type="checkbox"/> Catawba	<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman	<input type="checkbox"/> Other:
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
6h. Total buffer impacts					
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 31 feet longer than the existing bridge and at approximately the same grade and alignment; elimination of deck drains; removal of existing road fill under the bridge, improving bridge conveyance and reduce bridge opening velocities, grassed shoulders which will promote sheet flow and improve water infiltration.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. NCDOT Best Management Practices for Bridge Demolition, Removal and Construction will be followed, as well as those for Sedimentation and Erosion Control; the bridge drainage system will drain to a grass lined ditch instead of Hitchcock Creek.		
2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State		
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If no, explain: Stream impacts are for a temporary workpad and for bank stabilization, and as such should not cause any change in stream quality or function. Therefore, no compensatory mitigation is proposed.	
2b. If yes, mitigation is required by (check all that apply):	<input type="checkbox"/> DWQ <input type="checkbox"/> Corps	
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	<input type="checkbox"/> Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	<input type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments:		
5. Complete if Using a Permittee Responsible Mitigation Plan		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.		

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
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:	<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 checked="" 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 checked="" type="checkbox"/> Yes	<input 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? USFWS county list, field surveys in 2007 and 2011.		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: 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.)	5.29.12 Date



General Project Information

Project No.:	B-4615 (38436.1.1)	Project Type:	Bridge Replacement	Date:	
NCDOT Contact:	Galen Cail	Contractor / Designer:	Michael Kelly, E-C		
	Address: 1020 Birch Ridge Dr. Raleigh, N.C. 27610		Address: 1020 Birch Ridge Dr. Raleigh, N.C. 27610		
	Phone: 919.707.6711		Phone: 919.707.6731		
	Email: gcaill@ncdot.gov		Email: mkelly@ncdot.gov		
City/Town:	Rockingham, N.C.	County(ies):	CAMA County?		
River Basin(s):	Yadkin-Pee Dee		No		
Primary Receiving Water:	Hitchcock Creek	NCDWQ Stream Index No.:	C		
NCDWQ Surface Water Classification for Primary Receiving Water		Class C			
Other Stream Classification:					
303(d) Impairments:	dissolved oxygen (DO)				
Buffer Rules in Effect	N/A				

Project Description

Project Length (lin. Miles or feet):	0.099 miles	Surrounding Land Use:	Wooded
Project Built-Upon Area (ac.)	1.30	Proposed Project	Existing Site
Typical Cross Section Description:	12' Travel Lanes, 2' Paved Shoulder, 4' Grass Shoulders, 3:1 Side Slopes	ac.	0.52 ac.
Average Daily Traffic (veh/hr/day):	Design/Future: 2500 (2030)	Existing:	1800 (2013)

General Project Narrative: The project consists of relocating Bridge# 46 on SR 1419 over Hitchcock Creek with approximately 150' of approach work on the west side of the structure and 200' on the east side. The approach work will consist of raising the existing roadway grade and providing grass shoulders and guardrails. The existing 4 span structure (121' total length) will be replaced with a 3 span (1@40', 1@70', 1@40' -total 150' 24" covered slab bridge. Reduces the number of bents in Hitchcock Creek from 3 to 2.

- Best Mgmt. Practices:
- Promotion of sheet flow and infiltration with grassed shoulders except where shoulder berm gutter to 2GI East of bridge.
 - Outlet drainage system East of bridge to grass lined ditch.
 - Eliminated Deck Drains on bridge.
 - Removal of existing road fill under bridge, will improve bridge conveyance and reduce bridge opening velocities.

References

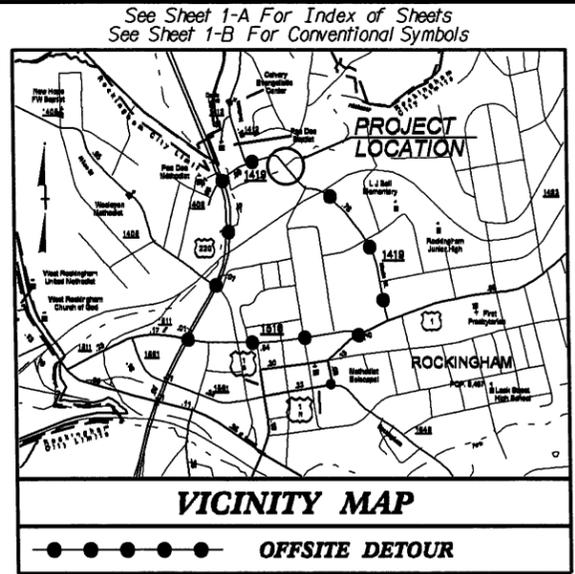
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4615	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38436.1.1	BRSTP-1419(3)	P.E.	
38436.2.1	BRSTP-1419(3)	RWUTIL	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

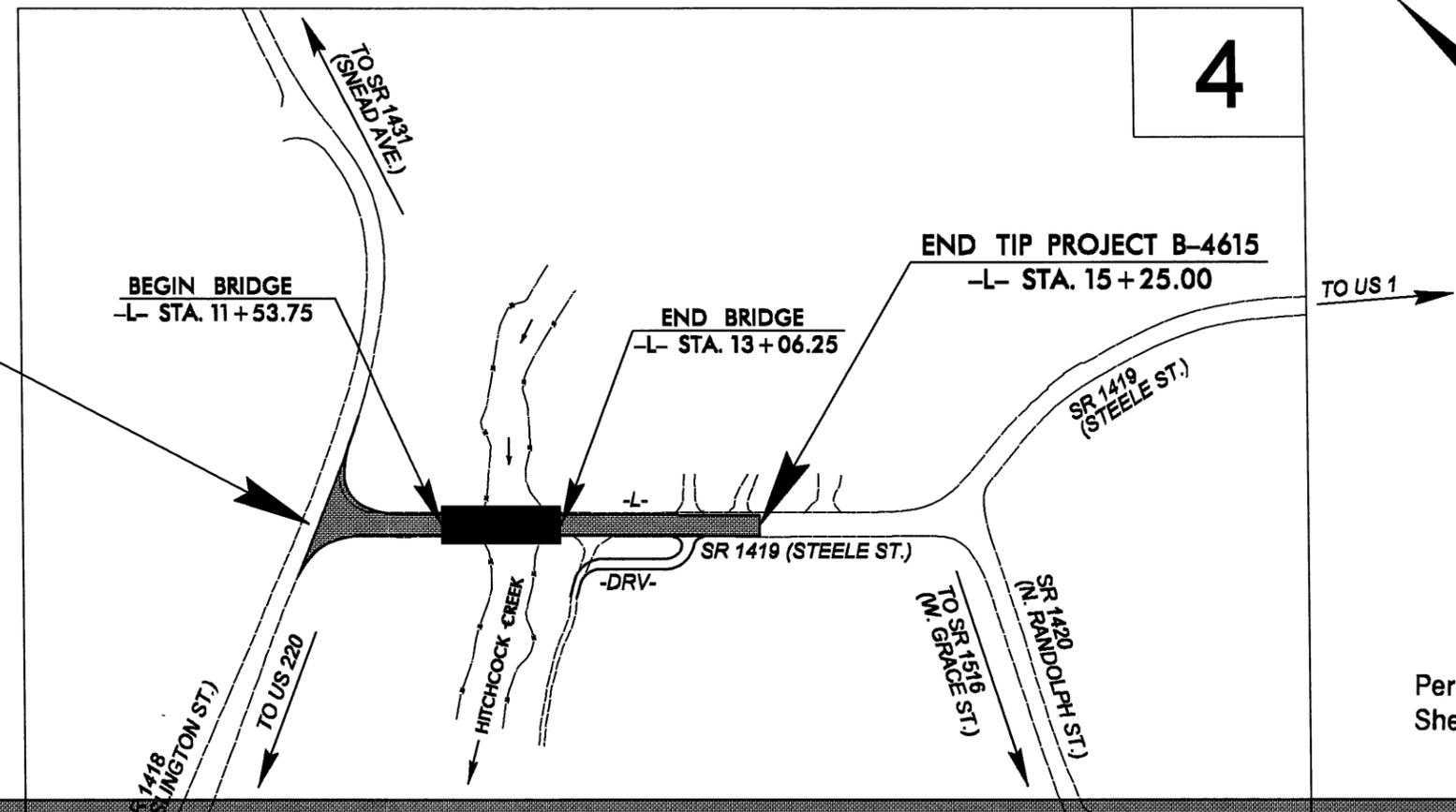
RICHMOND COUNTY

LOCATION: BRIDGE NO. 46 OVER HITCHCOCK CREEK
ON SR 1419 (STEELE STREET) IN ROCKINGHAM

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE



TIP PROJECT: B-4615



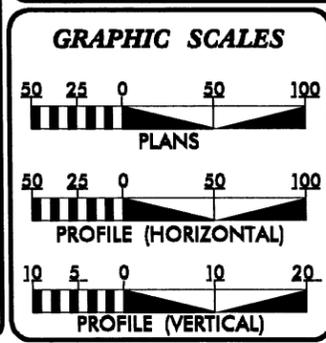
WETLAND AND SURFACE WATER IMPACTS PERMIT

DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K-FACTOR AND NIGHTTIME SSD. (20 MPH)
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS PROJECT WITHIN THE MUNICIPAL BOUNDARIES OF ROCKINGHAM

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

\$\$\$ SYSTEMS \$\$\$
\$\$\$ USER NAME \$\$\$

CONTRACT:



DESIGN DATA

ADT 2013 = 1800 VPD
ADT 2030 = 2500 VPD

DHV = 60 %
D = 10 %
T = 3 % *
V = 40 MPH

* TTST 1% DUAL 2%
FUNC. CLASS = LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4615 = 0.070 MI.
LENGTH STRUCTURE TIP PROJECT B-4615 = 0.029 MI.
TOTAL LENGTH OF TIP PROJECT B-4615 = 0.099 MI.

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 18, 2012

LETTING DATE:
FEBRUARY 19, 2013

JAMES A. SPEER, PE
PROJECT ENGINEER

ALLISON K. WHITE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

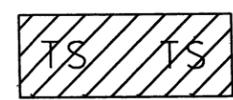
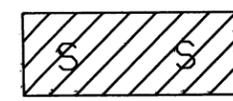
ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

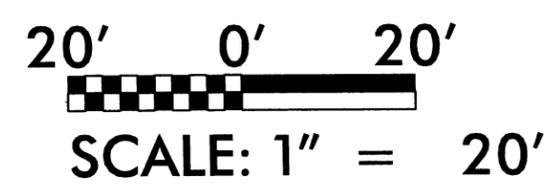
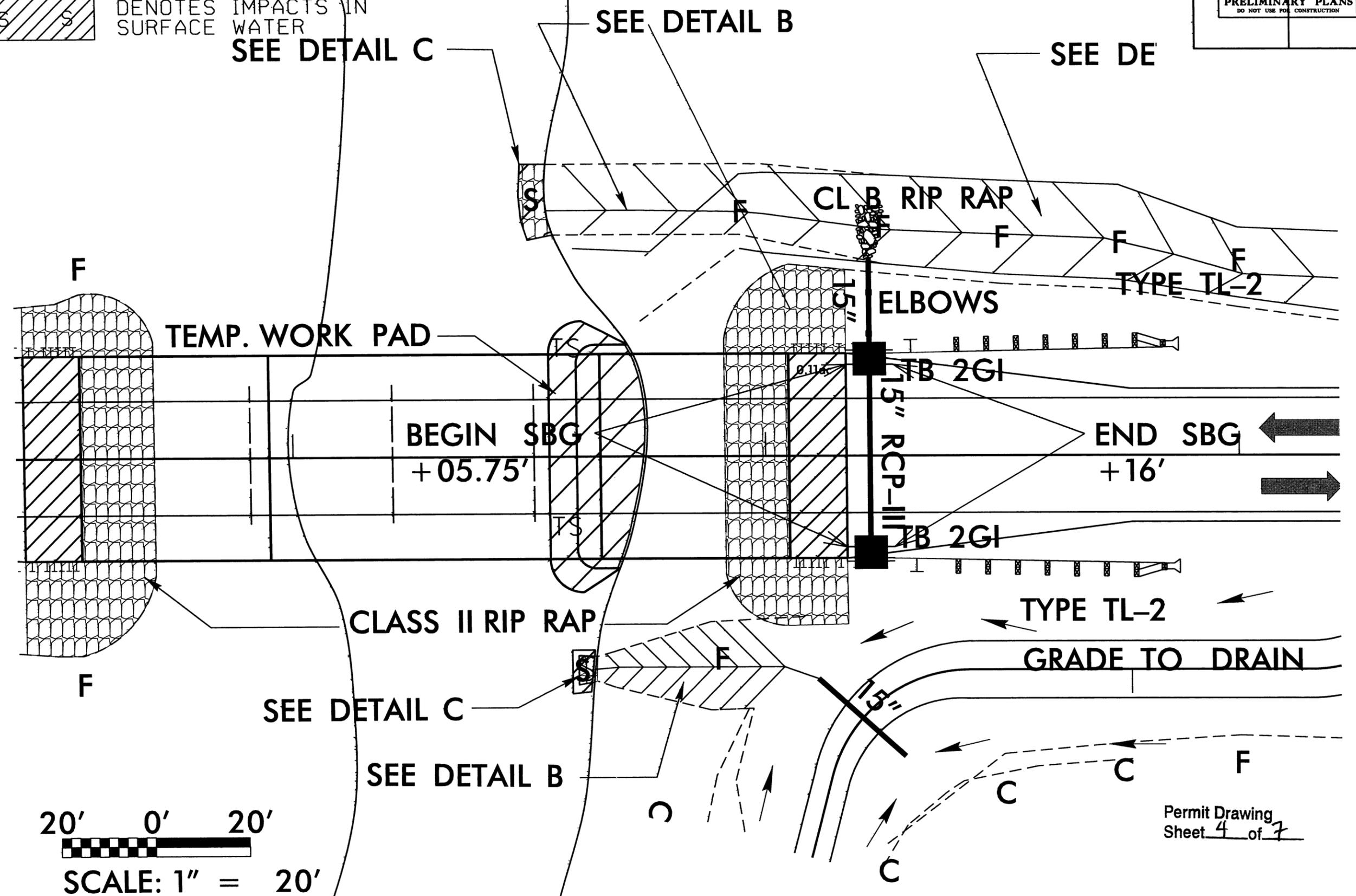
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

PROJECT REFERENCE NO. B-4615	SHEET NO. 4A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR P/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 DENOTES IMPACTS IN SURFACE WATER

8/17/99
 REVISIONS
 4/16/2012
 mkelly
 R:\Hydraulics\PERMITS_Environmental\Drawings\B4615_Hyd_prm_wet_Blowup.dgn
 *****SYSTEMTIME*****
 *****DGN*****
 *****USER*****



Permit Drawing
 Sheet 4 of 7

5/14/99

BM#1 RR SPIKE IN PP
N 437337 E 1768454 ELEV. = 181.80'

-L-

BM#2 RR SPIKE IN BASE OF 12' GUM TREE
N 437014 E 1768605 ELEV. = 167.11'

PROJECT REFERENCE NO. B-4615	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BRIDGE -L- STA. 12+30.00
ELEV. = 170.69
SKEW 90°-00'-00"
PROPOSED 16'4"-2 1/4", 16'70"-1 1/2", 16'4"-2 1/4"
21" & 24" CORED SLABS
TOTAL LENGTH = 162.5'

190

180

170

160

150

BRIDGE HYDRAULIC DATA		
DESIGN DISCHARGE	= 2300	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 166.70	FT
BASE DISCHARGE	= 300	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 162.60	FT
OVERTOPPING DISCHARGE	= 4300	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 169.30	FT
NORMAL WATER SURFACE	= 160.00	FT
DATE OF SURVEY	= 8/2011	
W.S. ELEVATION AT DATE OF SURVEY	= 160.00	FT

BEGIN GRADE
-L- STA. 10+10
EL = 179.16'

PI = 11+00.00
EL = 171.42'
VC = 160'
K = 12
*V = 20 mph

PI = 14+00.00
EL = 169.74'
VC = 60'
K = 429
V = 65 mph

PI = 14+60.00
EL = 169.32'
VC = 60'
K = 60
V = 35 mph

END GRADE
-L- STA. 15+10
EL = 169.47'

DITCH LEGEND
LEFT DITCH - - - - -

/// DENOTES TEMPORARY IMPACTS IN SURFACE WATER

* DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K-FACTOR AND NIGHTTIME SSD. (20 MPH)

SEE SHEET 4 FOR -L- DESIGN.

10 11 12 13 14 15 16 17 18

-DRV-

PI = 10+48.00
EL = 168.40'
VC = 60'
K = 60

PI = 11+50.00
EL = 165.42'
VC = 60'
K = 27

BEGIN GRADE
-DRV- STA. 10+14.00
EL = 169.16'

END GRADE
-DRV- STA. 11+90.00
EL = 165.10'

180

170

160

150

140

10 11 12

SEE SHEET 4 FOR -DRV- DESIGN.

Permit Drawing
Sheet 5 of 7

3/8/2012
 R:\Hydraulics\PERMITS_Environmental\Drawings\B4615-Hyd-Pf-Bridge.dgn
 SYSTEMTIME: 2012/03/08 10:58:58 AM
 USER: JPERNOME

PROPERTY OWNERS
NAMES AND ADDRESSES

PARCEL NO.

NAMES

ADDRESSES

Paul Tyler

**6141 Beckwourth Way
Oroville, CA 95966**

George Browder

**1312 Carolina Dr.
Rockingham, NC 28379**

NCDOT

DIVISION OF HIGHWAYS

RICHMOND COUNTY

PROJECT: 38436.1.1 (B-4615)

ROCKINGHAM

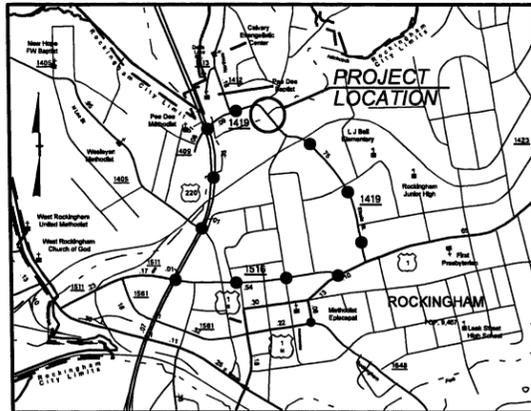
BRG. #46 OVER HITCHCOCK CR.

ON SR 1419 (STEELE STREET)

09/08/09

TIP PROJECT: B-4615

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



VICINITY MAP

●●●●● OFFSITE DETOUR
DETOUR SIGNING BY CONTRACTOR

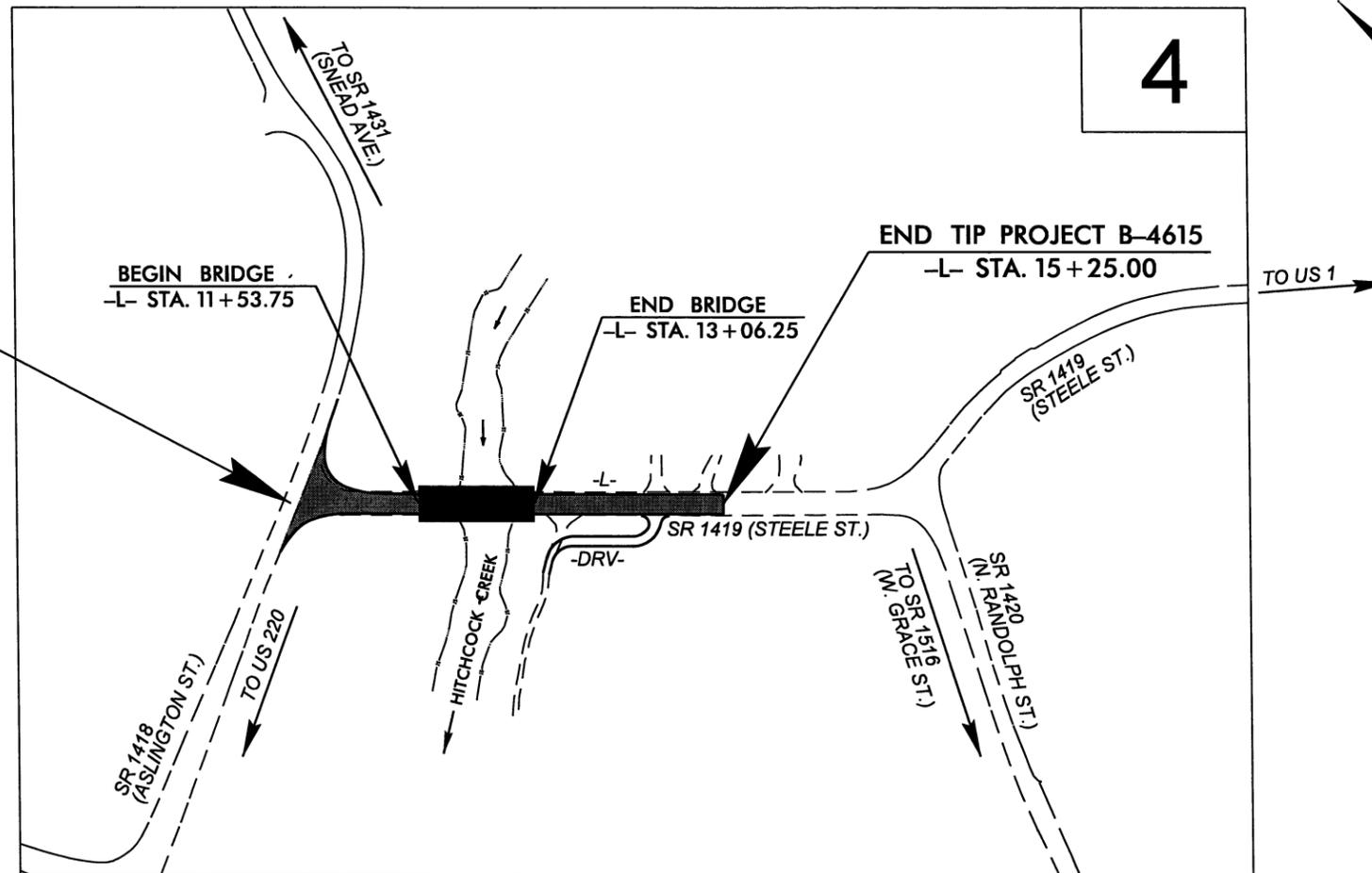
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

RICHMOND COUNTY

**LOCATION: BRIDGE NO. 46 OVER HITCHCOCK CREEK
ON SR 1419 (STEELE STREET) IN ROCKINGHAM**

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4615	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38436.1.1	BRSTP-1419(3)	P.E.	
38436.2.1	BRSTP-1419(3)	RW/UTIL	

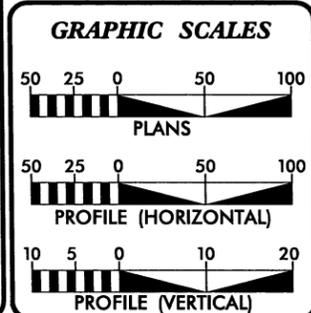


DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K-FACTOR AND NIGHTTIME SSD. (20 MPH)
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS PROJECT WITHIN THE MUNICIPAL BOUNDARIES OF ROCKINGHAM

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

18-JAN-2012 15:26
R:\Roadway\Projects\B4615_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

CONTRACT:



DESIGN DATA

ADT 2013 =	1800 VPD
ADT 2030 =	2500 VPD
DHV =	60 %
D =	10 %
T =	3 % *
V =	40 MPH
* TTST 1 %	DUAL 2 %
FUNC. CLASS =	LOCAL SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4615	=	0.070 MI.
LENGTH STRUCTURE TIP PROJECT B-4615	=	0.029 MI.
TOTAL LENGTH OF TIP PROJECT B-4615	=	0.099 MI.

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 18, 2012

LETTING DATE:
FEBRUARY 19, 2013

JAMES A. SPEER, PE
PROJECT ENGINEER

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

04/16/11

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	-----
Property Monument	□
Parcel/Sequence Number	②③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-----
Proposed Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----
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	○
Well	○
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	↑
Building	□
School	□
Church	□
Dam	-----

HYDROLOGY:

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

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
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 RW Marker	-----
Proposed Control of Access Line with Concrete C/A 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	-----
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	-----
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	-----

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	-----

SANITARY SEWER:

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

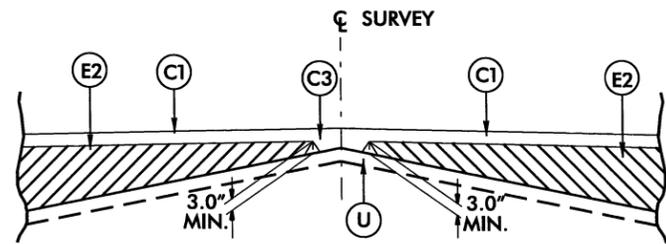
MISCELLANEOUS:

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	-----
End of Information	-----

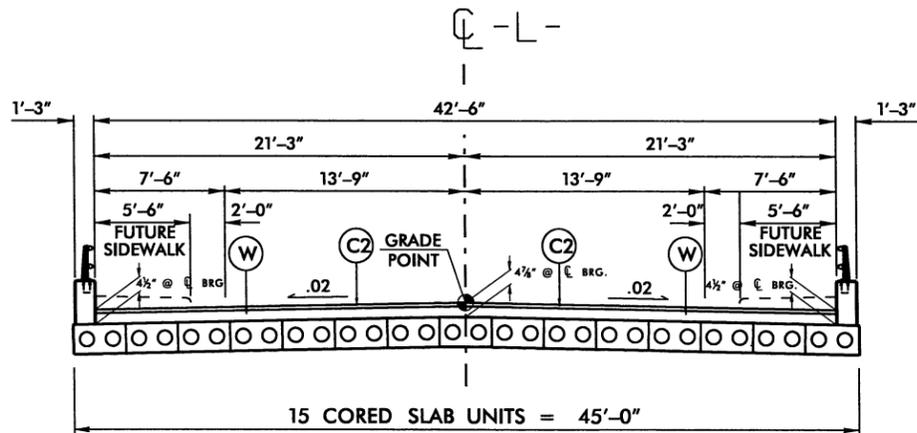
6/22/99

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 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 5.5" IN DEPTH.
J	PROP. 6" AGGREGATE BASE COURSE.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL NO. 1)

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



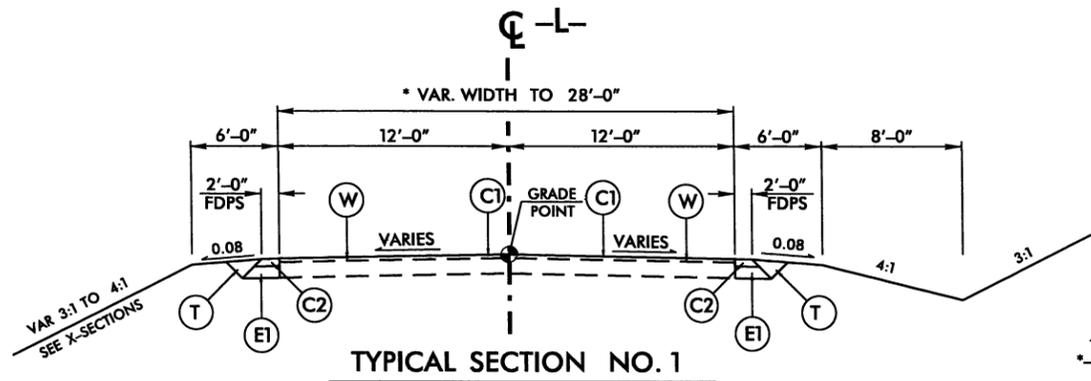
Detail Showing Method of Wedging
DETAIL 1



TYPICAL SECTION ON STRUCTURE

BEGIN BRIDGE -L- STA. 11+53.75 TO END BRIDGE -L- STA. 13+06.25

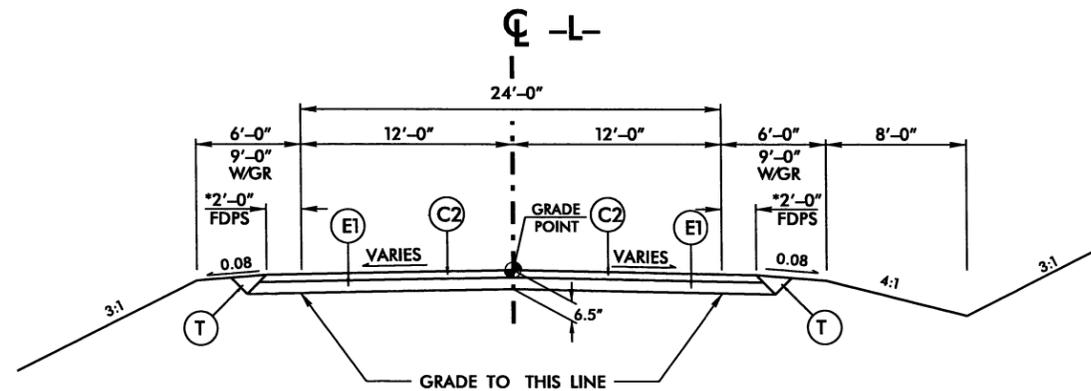
PROJECT REFERENCE NO. B-4615	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

*-L- STA. 10+10.00 TO -L- STA. 10+50.00
-L- STA. 13+75.00 TO -L- STA. 15+10.00
* SEE STREET TURNOUT PLAN SHEET 4

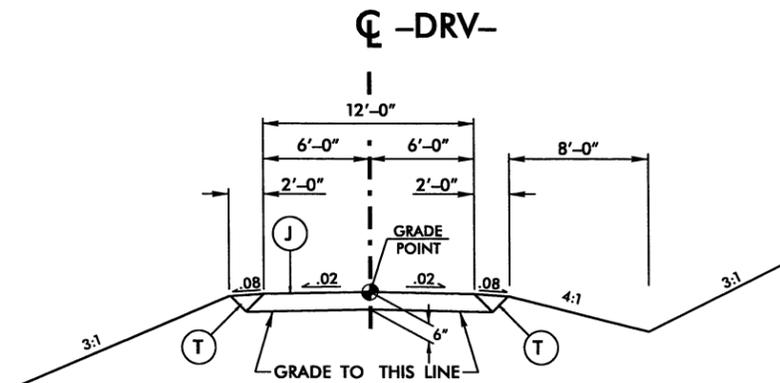


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

-L- STA. 10+50.00 TO -L- STA. 11+53.75 (BEGIN BRIDGE)
-L- STA. 13+06.25 (END BRIDGE) TO -L- STA. 13+75.00

*PS VARIES FROM 2' TO 9.25', SEE PSH4 BRIDGE SKETCH
*-L- STA. 10+83.09 TO -L- STA. 11+42.75
*-L- STA. 13+17.25 TO -L- STA. 13+77.25



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-DRV- STA. 10+14.00 TO 11+74.17

B:\JAN-2005\F27\AB4615.rdw: tjp.dgn

5/14/99

BM#1 RR SPIKE IN PP
N 437337 E 1768454 ELEV. = 181.80'

-L-

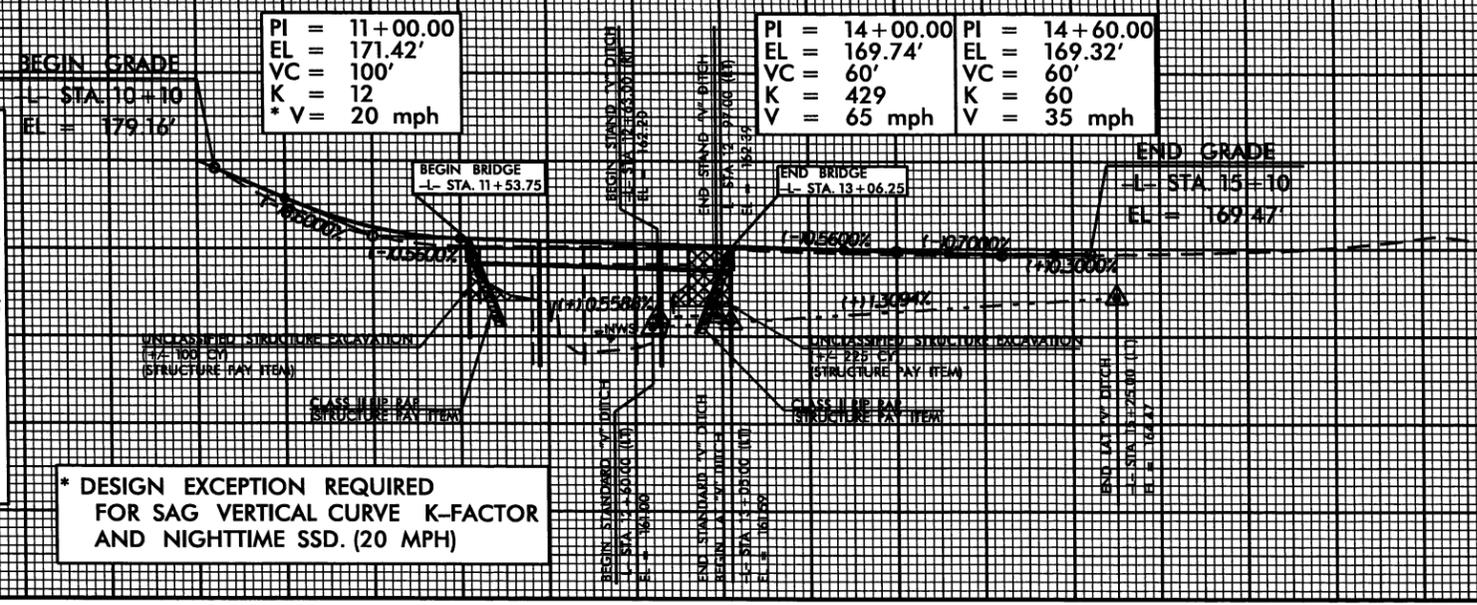
BM#2 RR SPIKE IN BASE OF 12" GUM TREE
N 437014 E 1768605 ELEV. = 167.11'

PROJECT REFERENCE NO. B-4615	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

BRIDGE -L- STA. 12+30.00
ELEV. = 170.69
SKEW 90°-00'-00"
PROPOSED 10'4"-2 1/4', 10'70"-1 1/2', 10'4"-2 1/4'
21" & 24" CORED SLABS
TOTAL LENGTH = 152.5'

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 2300	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 166.70	FT
BASE DISCHARGE	= 3100	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 167.60	FT
OVERTOPPING DISCHARGE	= 4300	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 169.30	FT
NORMAL WATER SURFACE	= 160.00	FT
DATE OF SURVEY	= 8/2011	
W.S. ELEVATION AT DATE OF SURVEY	= 160.00	FT

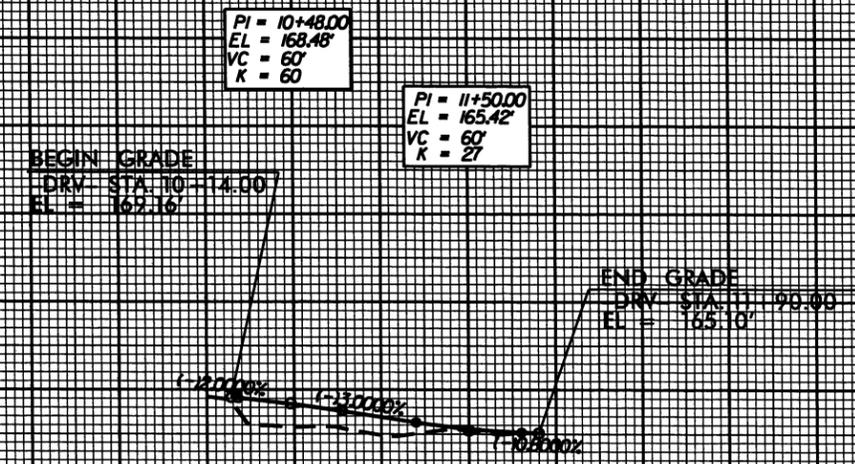


DITCH LEGEND
LEFT DITCH - - - - -

* DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K-FACTOR AND NIGHTTIME SSD. (20 MPH)

SEE SHEET 4 FOR -L- DESIGN.

-DRV-



SEE SHEET 4 FOR -DRV- DESIGN.

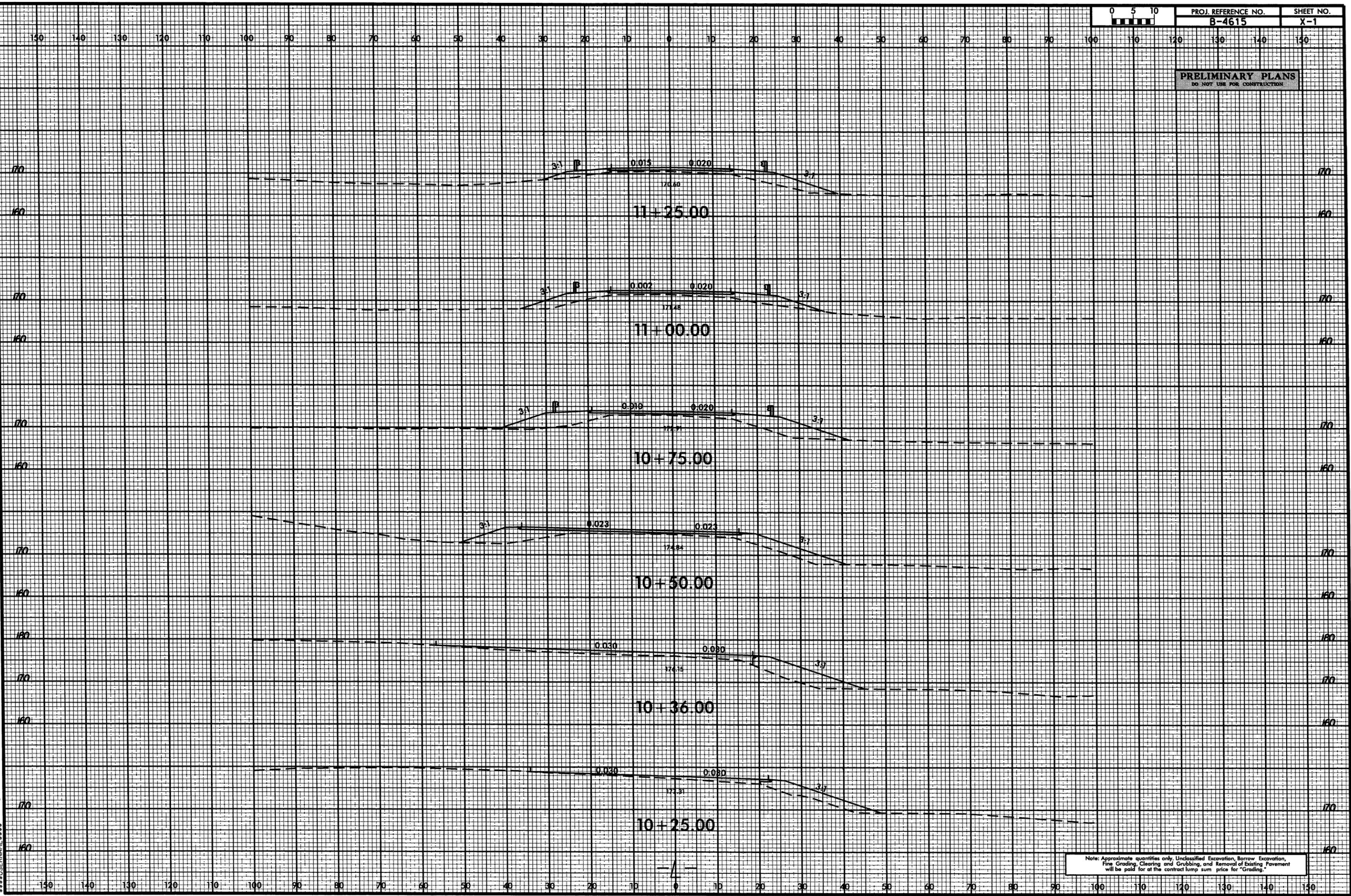
B:\JAN-2015\15-27\154615-drv.pfl.dgn

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
B-4615	X-1

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

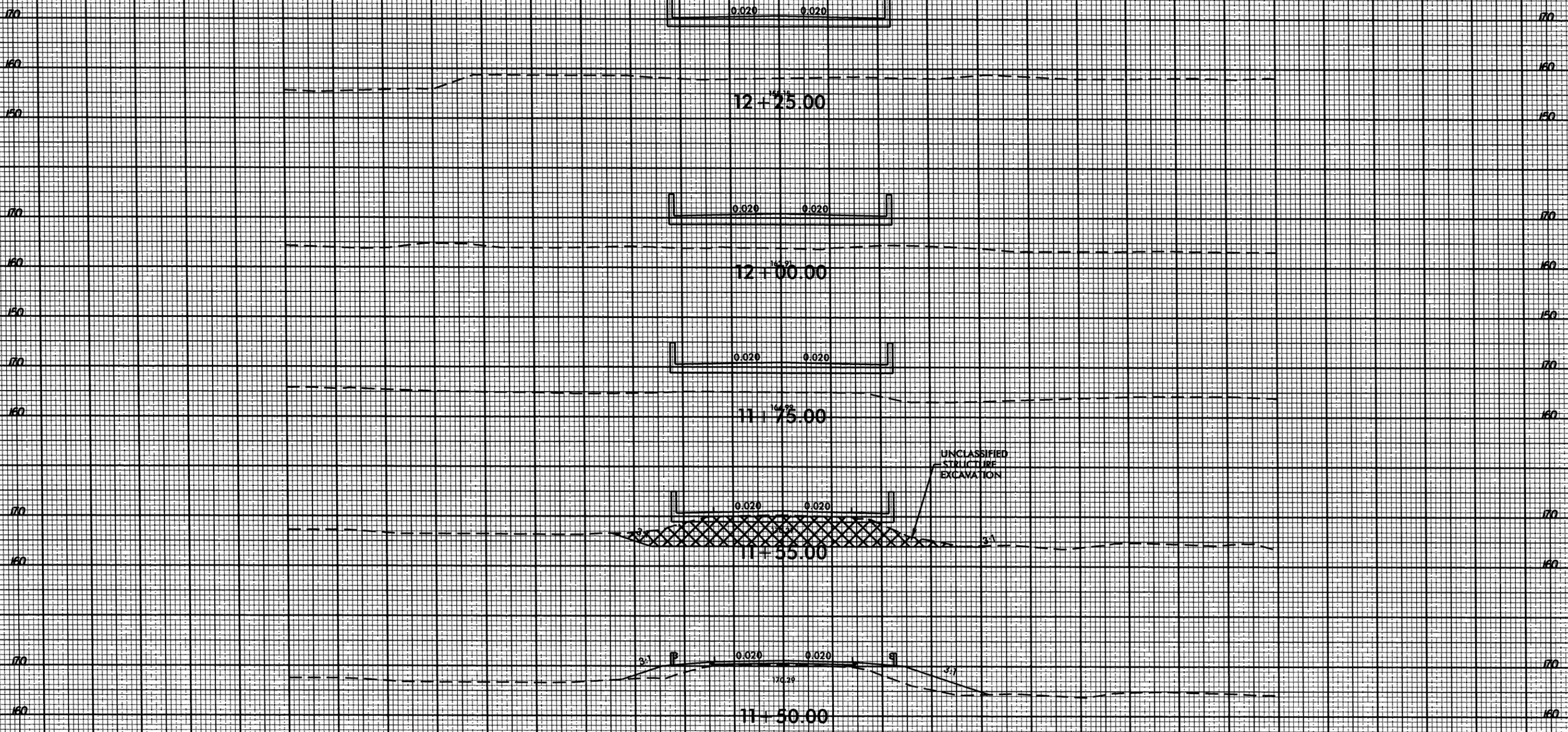


Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

B:\JAN-2012\537\537.dwg
8/23/99
537.dwg



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

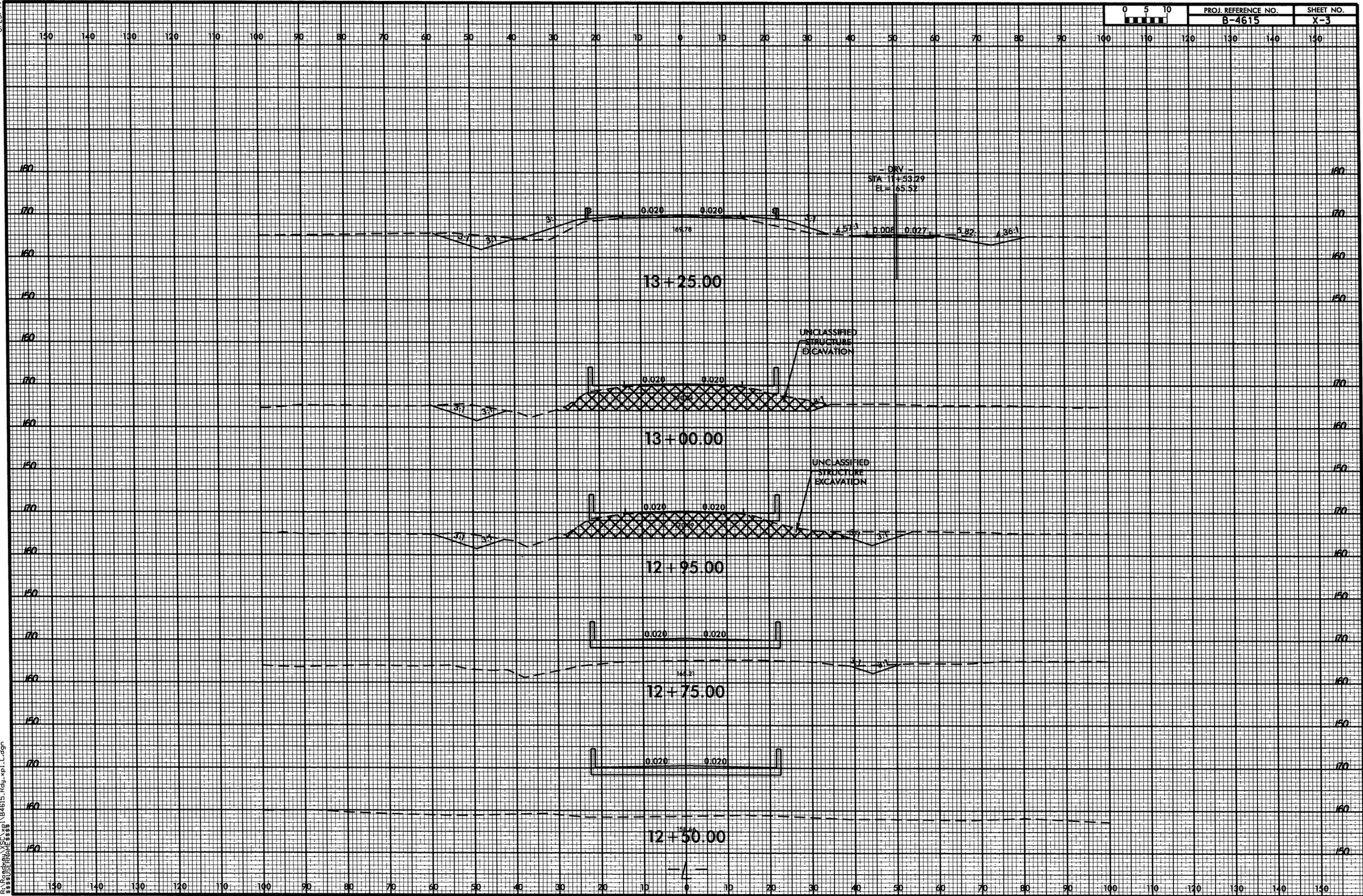


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

8/23/99

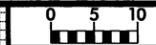


PROJ. REFERENCE NO. B-4615 SHEET NO. X-3



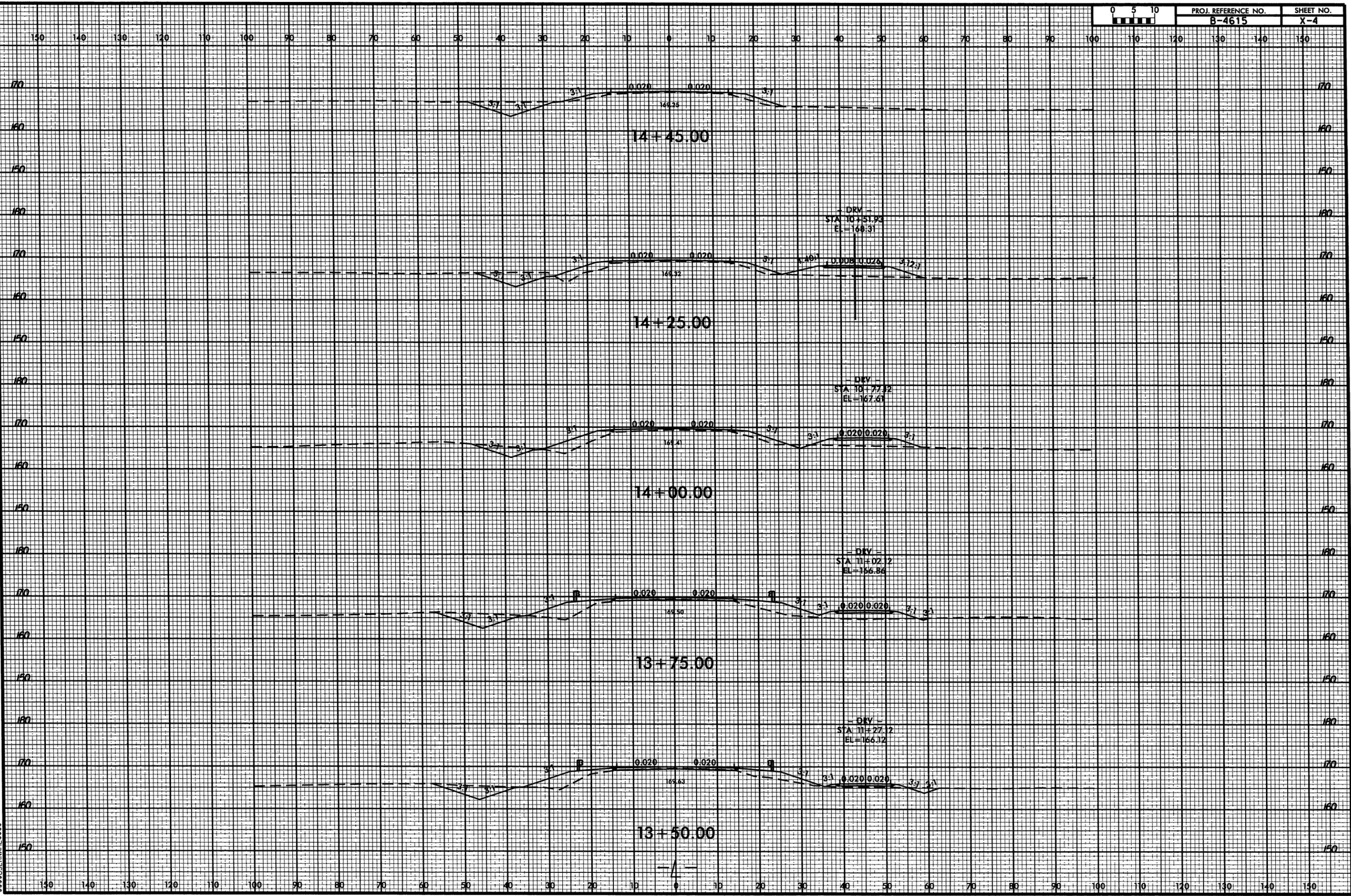
B:\JAN-2002\1527\1527A\p1\B4615.Fdy.xpl.dgn

8/23/99



PROJ. REFERENCE NO.
B-4615

SHEET NO.
X-4

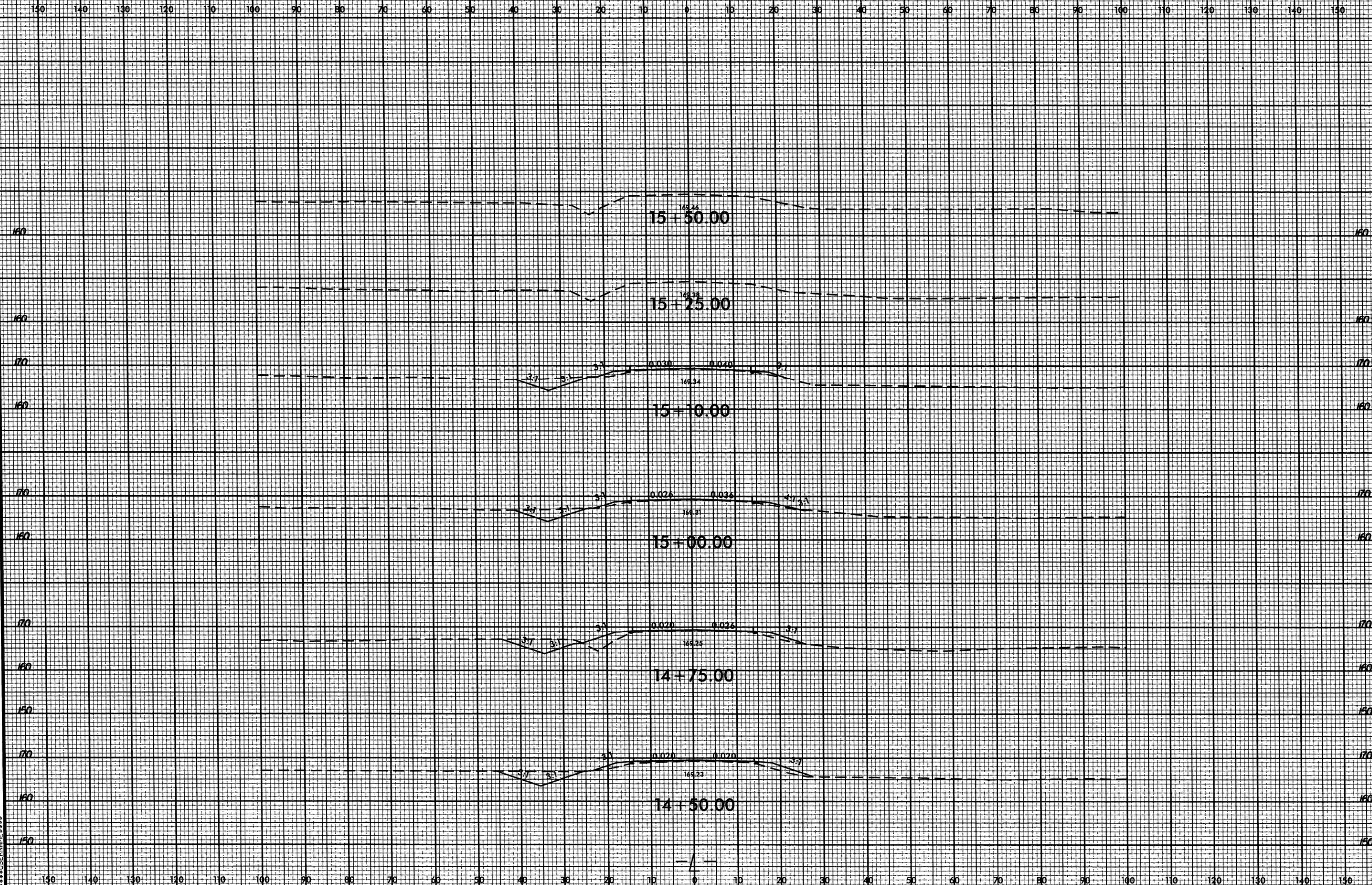


R:\AN-202\5-27
 R:\AN-202\5-27\SCA\p1\B4615_Rdy_xp1.L.dgn
 \$\$\$DSEPRMAN\$\$\$

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
B-4615	X-5



B:\JAN-2012\5571\B4615_Rdy_xpl.dgn
 5:38:55 PM 1/11/2012