



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

June 13, 2012

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

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

Subject: **Application for Section 404 Nationwide Permit 23 and Section 401 Water Quality Certification** for the Replacement of Bridge No. 12 on SR 1554 (Yarborough Mill Road) over Country Line Creek in Caswell County, North Carolina, TIP No. B-4725, Federal Aid Project No. BRZ-1554 (4).

Debit \$240.00 from WBS Element 38499.1.1

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 12 on SR 1554 (Yarborough Road) over Country Line Creek in Caswell County. This involves replacement of the existing 10 span 201-foot long bridge with a 3 span 210-foot long bridge on existing location. An onsite detour located south of existing bridge will be used. Also, within the project limits, there is an existing 24-inch pipe which currently conveys an Unnamed Tributary to Country Line Creek underneath Yarborough Road. A broken, perched end of this pipe will be repaired with a junction box and section of new pipe. There will be 42 feet of permanent stream impacts due to replacement of the bridge and repair to the pipe and junction box. Bank stabilization accounts for 35 feet of impacts and the pipe repair and junction box accounts for the remaining 7 feet. There will also be 17 feet of temporary stream impacts for removal of an existing bridge pier.

Please find enclosed the Pre-Construction Notification (PCN) form, Ecosystem Enhancement Program (EEP) letter, stormwater management plan, permit drawings, and design plans for the above referenced project. A Programmatic Categorical Exclusion (PCE) was completed for this project on March 1, 2012 and distributed shortly thereafter. Additional copies are available upon request.


The proposed let date for the project is January 15, 2013 with a review date of November 27, 2012. 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 Deanna Riffey at driffey@ncdot.gov or (919) 707-6151.

Sincerely,



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

cc: NCDOT Permit Application Standard Distribution List



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

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 23 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

2. Project Information

2a. Name of project:	Replacement of Bridge No. 12 on SR 1554 over Country Line Creek.
2b. County:	Caswell
2c. Nearest municipality / town:	Yarbro
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no:	B-4725

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	<i>not applicable</i>
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6151
3g. Fax no.:	(919) 212-5785
3h. Email address:	driffey@ncdot.gov

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

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 36.495825 (DD.DDDDDD) Longitude: - 79.206531 (-DD.DDDDDD)
1c. Property size:	0.52 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Country Line Creek
2b. Water Quality Classification of nearest receiving water:	C
2c. River basin:	Roanoke
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 is agriculture and forested land.	
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: 510	
3d. Explain the purpose of the proposed project: To replace a structurally deficient bridge and pipe.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 201-foot bridge with a 210-foot bridge on existing alignment using an onsite detour and replacing a broken, perched end of a 24" cross pipe with a junction box and new section of pipe. 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: perennial/ intermittent streams	<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? Site visit made by Andy Williams on 5/7/09; no JD received to date	<input type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): D. Riffey	Agency/Consultant Company: NCDOT Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. USACE site visit 5/7/09.	
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)
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
<input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
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 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Pier removal	Country Line Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	55	17
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stabilization	Country Line	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	55	27
Site 2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill	UT Country Line	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	2	7
Site 2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stabilization	UT Country Line	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	2	8
3h. Total stream and tributary impacts						42 Perm 17 Temp

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 <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
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4g. Comments:

5. Pond or Lake Construction

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

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

5g. Comments:

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

6. Buffer Impacts (for DWQ)

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

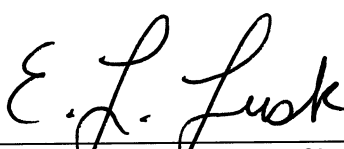
6a. Project is in which protected basin?		<input type="checkbox"/> Neuse <input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Other: <input type="checkbox"/> Catawba <input type="checkbox"/> Randleman			
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
6h. Total buffer impacts					
6i. Comments:					

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. The proposed bridge replacement will take place on existing alignment and is longer. Impacts were minimized by replacing the existing 10-span bridge with a 3-span bridge. No bridge bents are located in the water. A preformed scour hole will be used to minimize effects of run-off. A pipe repair will be done and a junction box added for an intermittent stream to replace the existing perched and broken section of pipe.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. NCDOT will use best management for Sedimentation and Erosion Control as well as for Protection of Surface Waters.		
2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State		
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, explain:	
2b. If yes, mitigation is required by (check all that apply):	<input checked="" type="checkbox"/> DWQ <input checked="" type="checkbox"/> Corps	
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input checked="" type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	<input checked="" type="checkbox"/> Yes	
4b. Stream mitigation requested:	7 linear feet (at a 1:1 ratio)	
4c. If using stream mitigation, stream temperature:	<input checked="" type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments:		
5. Complete if Using a Permittee Responsible Mitigation Plan		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.		

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ					
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.					
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)	
Zone 1			3 (2 for Catawba)		
Zone 2			1.5		
			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: Not in protected buffer basin.	<input type="checkbox"/> Yes <input checked="" 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? No habitat for <i>Pleurobema collina</i>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts? No effect ; Last survey occurred on 9/1/09.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh	<input type="checkbox"/> Asheville
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? USFWS county list and NCNHP database along with field surveys.		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
<u>Dr. Gregory J. Thorpe, Ph D</u> Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	June 14, 2012 Date



June 12, 2012

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

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

B-4725, Replace Bridge Number 12 on SR 1554 (Yarborough Mill Road) over Country Line Creek, Caswell County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation for the subject project. Based on the information supplied by you on June 12, 2012, the impacts are located in CU 03010104 of the Roanoke River basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Roanoke 03010104 CP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	7	0	0	0	0	0

This impact and associated mitigation need were under projected by the NCDOT in the 2012 impact data. EEP will commit to implement sufficient compensatory stream mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

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

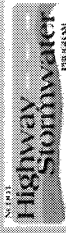
Sincerely,

Michael Ellison
 EEP Deputy Director

cc: Mr. Andy Williams, USACE – Raleigh Regulatory Field Office
 Mr. David Wainwright, Division of Water Quality, Wetlands/401 Unit
 File: B-4725

Restoring... Enhancing... Protecting Our State





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



(Version 1.2; Released September 2011)

General Project Information

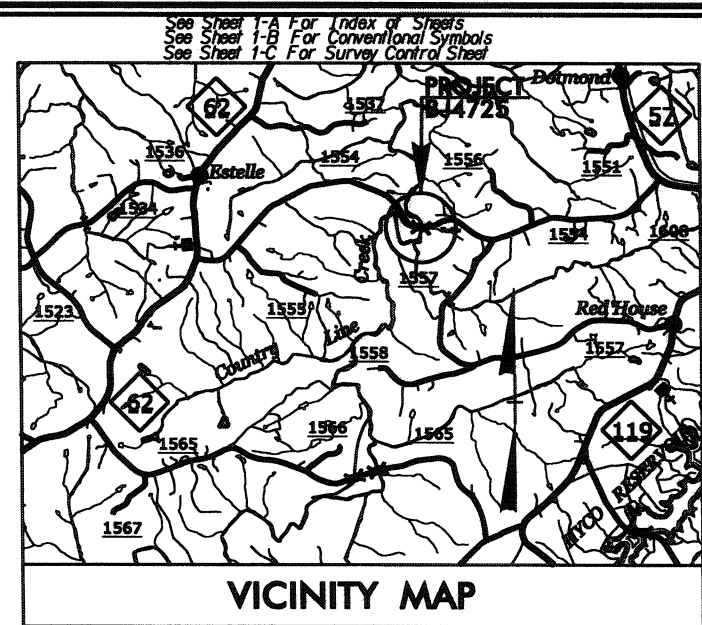
Project No.:	B-4725	Project Type:	Bridge Replacement	Date:	6/7/2012
NCDOT Contact:	Marshall Clawson, PE 1591 Mail Service Center Raleigh, NC 27699	Contractor / Designer:	HDR Engineering - James Rice, PE Suite 207 Raleigh, NC 27612		
	Address:				
	Phone: (919) 707-6713				
	Email: mclawson@ncdot.gov				
City/Town:	Estelle, NC	County(ies):	Caswell		
River Basin(s):	Roanoke	CAMA County?	No		
Primary Receiving Water:	Country Line Creek	NCDWQ Stream Index No.:	22-56-(3.7)		
NCDWQ Surface Water Classification for Primary Receiving Water		Primary:	Class C		
Other Stream Classification:		Supplemental:	None		
303(d) Impairments:					
Buffer Rules in Effect	N/A				

Project Description	
Project Length (lin. Miles or feet):	Surrounding Land Use:
0.171 miles	Farming/Agricultural
Project Built-Upon Area (ac.)	Proposed Project
0.52	Existing Site
Typical Cross Section Description:	
(2) 11 foot lanes with a 3' grass shoulder.	(2) 10 foot lanes with an approximate 6' grass shoulder

Average Daily Traffic (veh/hr/day):	Design/Future: 1500	Existing: 970
General Project Narrative:	For this project (B-4725) the existing 201 foot long 10-span bridge with a 210 foot long 3-span 33" bridge. The approach lanes will be widened from 10' to 11'. Deck drains will be required on both sides of the proposed bridge, but no drains will discharge over open water. The existing bridge has open rails that discharge the deck drainage directly into the water. The small amount of water that is collected off the end of the bridge is treated through a pre-formed scour hole.	

09/08/99

TIP PROJECT: B-4725
CONTRACT: C203079



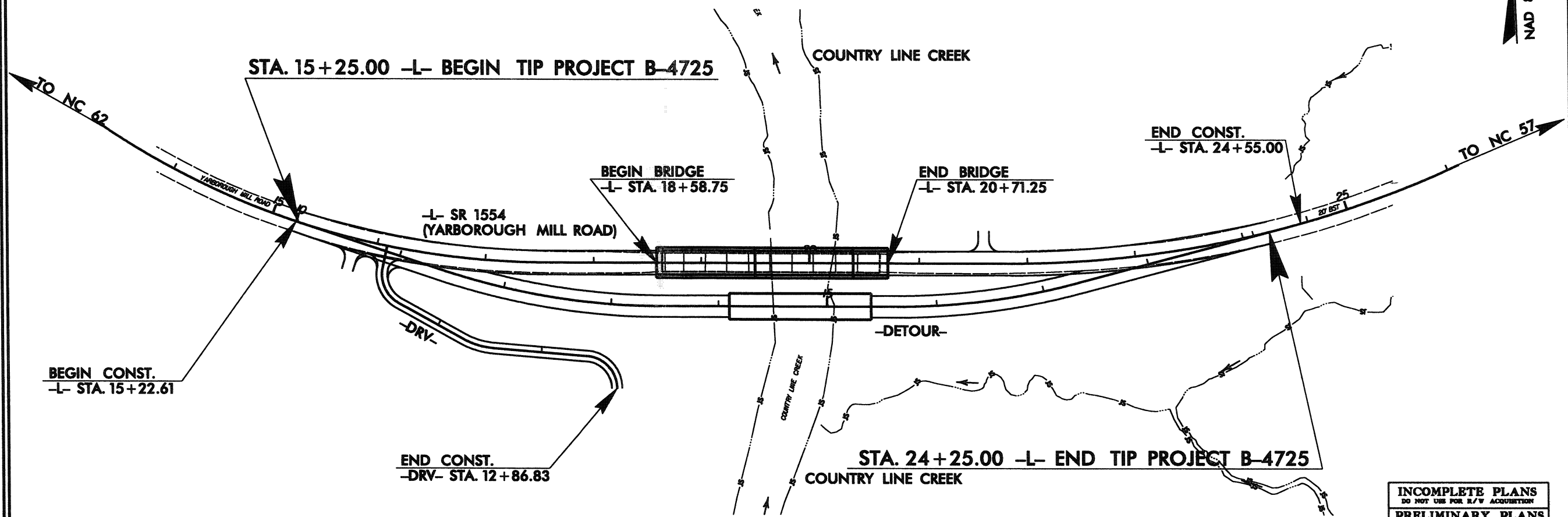
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
CASWELL COUNTY

STATE	STATE PROJECT REFERENCE NO.	CONST. NO.	TOTAL SHEETS
N.C.	B-4725	1	
STATE FINDER	P.A. NUMBER	DESCRIPTION	
38492.1.1	BRZ-1554(4)	PE	

LOCATION: BRIDGE NO.12 OVER COUNTRY LINE CREEK
ON SR 1554 (YARBOROUGH MILL ROAD)

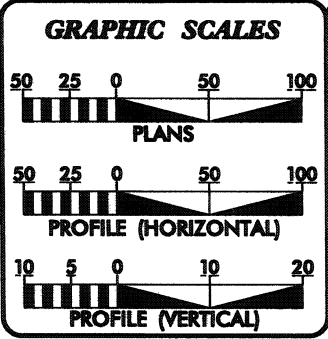
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

Permit Drawing
 Sheet 1 of 1



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

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



DESIGN DATA

ADT 2012 =	970
ADT 2035 =	1500
DHV =	10 %
D =	55 %
T =	3 % *
V =	55 MPH
* TTST =	1% DUAL = 2%
FUNC. CLASS. =	RURAL COLLECTOR
"SUB-REGIONAL TIER"	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4725 =	0.131 MILES
LENGTH STRUCTURE TIP PROJECT B-4725 =	0.040 MILES
TOTAL LENGTH OF TIP PROJECT B-4725 =	0.171 MILES

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

2002 STANDARD SPECIFICATIONS

PRODUCTION
 RIGHT OF WAY DATE:
 JULY 20, 2012

PRODUCTION
 LETTING DATE:
 JANUARY 15, 2013

JAMES A. SPEER, PE
 PROJECT ENGINEER

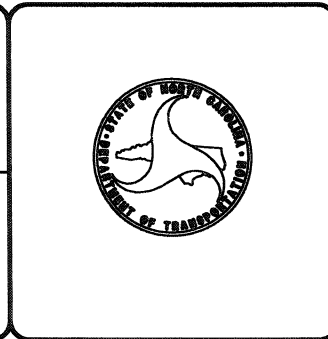
DANIEL W. GARDNER, JR., PE
 PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

 P.E.

ROADWAY DESIGN ENGINEER

 P.E.




#####SYTIME#####
 #####DCN#####
 #####SRNAME#####


8/17/99

6/1/2015 15:51 HYD_PRRM_PSH.dgn

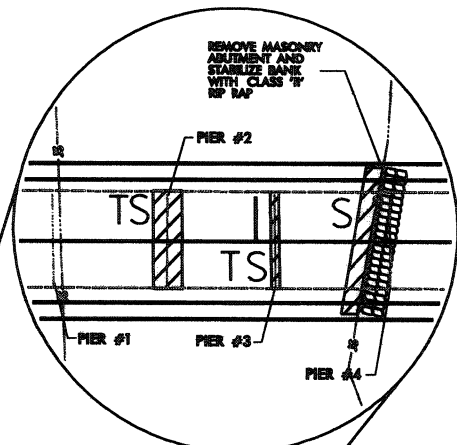
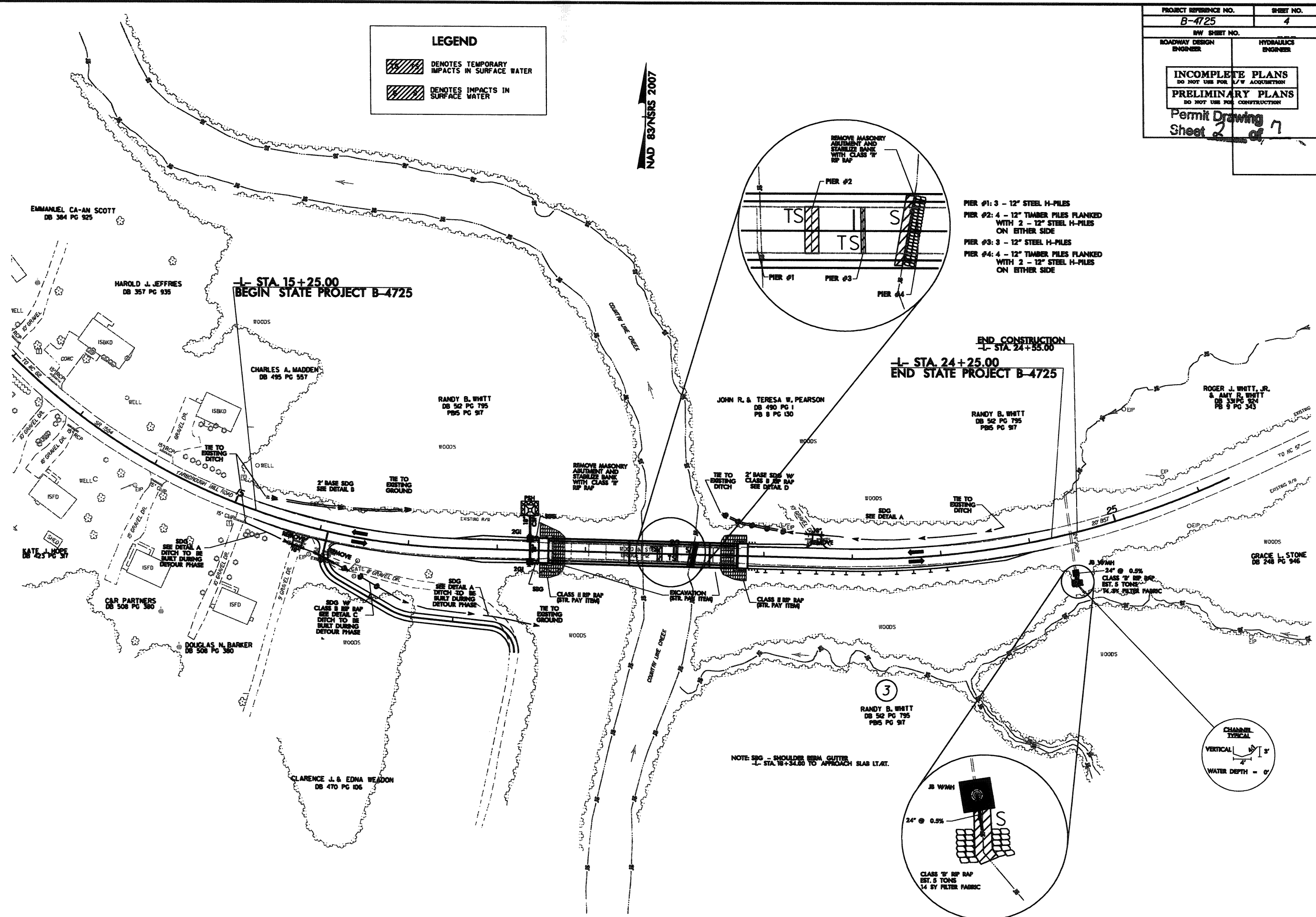
PROJECT REFERENCE NO. B-4725	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR L/V ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
Permit Drawing Sheet 2 of 7	

LEGEND

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

 DENOTES IMPACTS IN SURFACE WATER

NAD 83/NSRS 2007

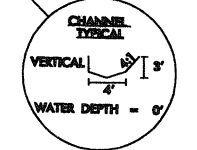
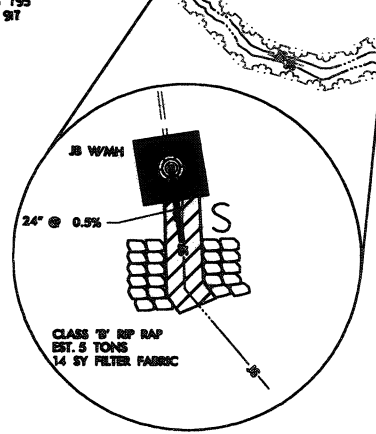


- PIER #1: 3 - 12" STEEL H-PILES
- PIER #2: 4 - 12" TIMBER PILES FLANKED WITH 2 - 12" STEEL H-PILES ON EITHER SIDE
- PIER #3: 3 - 12" STEEL H-PILES
- PIER #4: 4 - 12" TIMBER PILES FLANKED WITH 2 - 12" STEEL H-PILES ON EITHER SIDE

END CONSTRUCTION
 L- STA. 24+55.00
L- STA. 24+25.00
END STATE PROJECT B-4725

L- STA. 15+25.00
BEGIN STATE PROJECT B-4725

NOTE: SDG - SHOULDER BERM GUTTER
 L- STA. 16+34.80 TO APPROACH SLAB LT./RT.




* DITCH TO BE BUILT DURING DETOUR PHASE


8/17/99

6/1/2006 HYDL.PRM.PSH.dgn

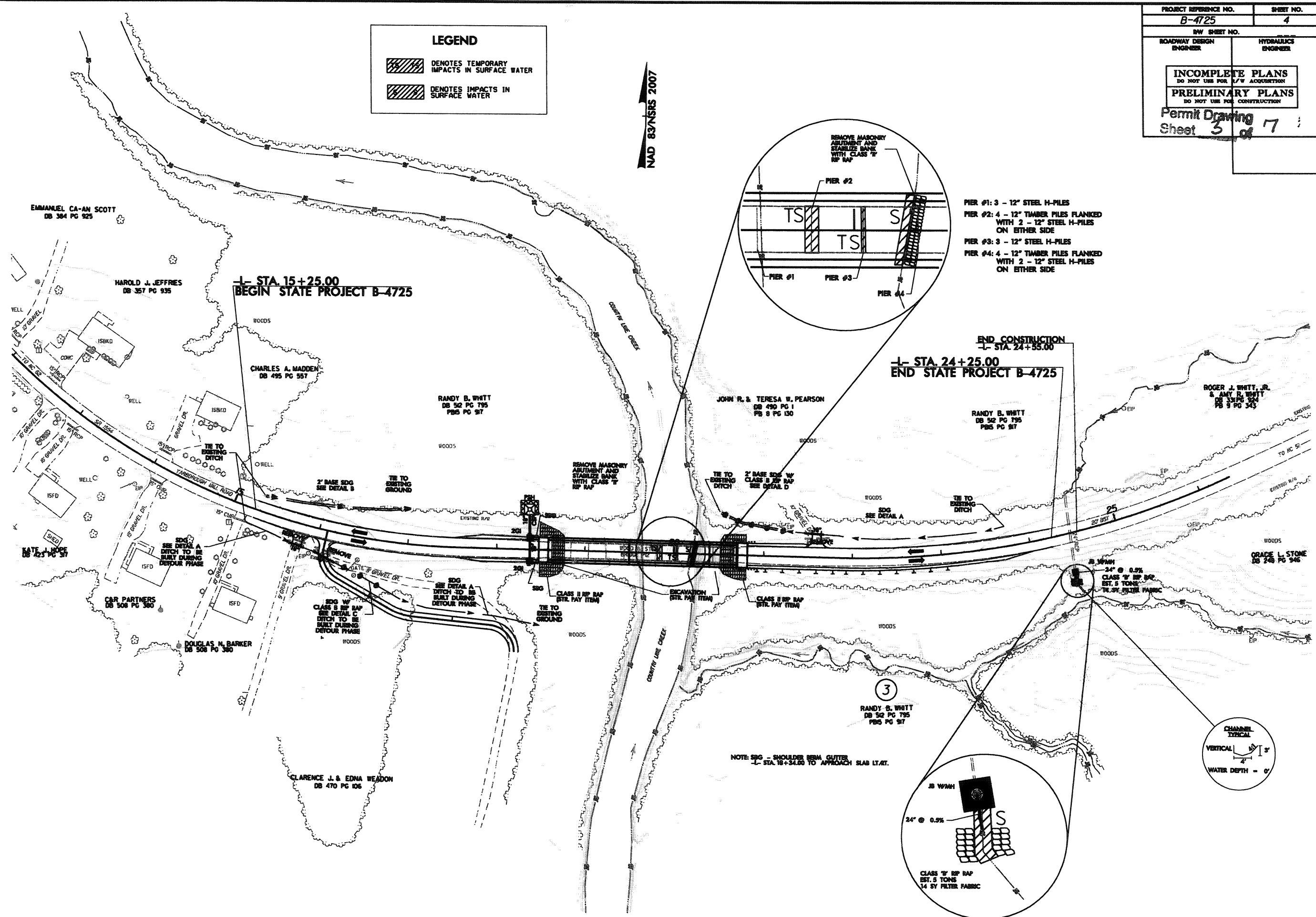
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B-4725	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR L/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
Permit Drawing Sheet 3 of 7	

LEGEND

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

 DENOTES IMPACTS IN SURFACE WATER

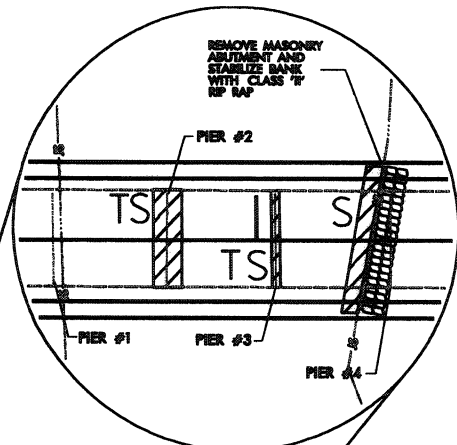
NAD 83/NSRS 2007



NOTE: SDG - SHOULDER BERM CUTTER
- STA. 18+34.00 TO APPROACH SLAB LT/RT.

* DITCH TO BE BUILT DURING DETOUR PHASE

- PIER #1: 3 - 12" STEEL H-PILES
- PIER #2: 4 - 12" TIMBER PILES FLANKED WITH 2 - 12" STEEL H-PILES ON EITHER SIDE
- PIER #3: 3 - 12" STEEL H-PILES
- PIER #4: 4 - 12" TIMBER PILES FLANKED WITH 2 - 12" STEEL H-PILES ON EITHER SIDE



END CONSTRUCTION
- STA. 24+55.00
- STA. 24+25.00
END STATE PROJECT B-4725

EMMANUEL CA-AN SCOTT
DB 384 PG 925

HAROLD J. JEFFRIES
DB 357 PG 935

CHARLES A. MADDEN
DB 495 PG 957

RANDY B. WHITT
DB 52 PG 795
P85 PG 917

JOHN R. & TERESA W. PEARSON
DB 490 PG 1
P8 8 PG 130

RANDY B. WHITT
DB 52 PG 795
P85 PG 917

ROGER J. WHITT, JR.
& AMY B. WHITT
DB 337 PG 324
P8 9 PG 343

GRACE L. STONE
DB 248 PG 346

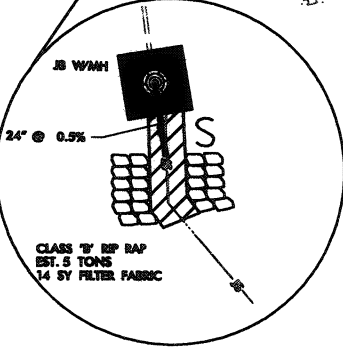
KATE J. HOPE
DB 723 PG 917

CAR PARTNERS
DB 508 PG 300

DOUGLAS N. BARKER
DB 508 PG 300

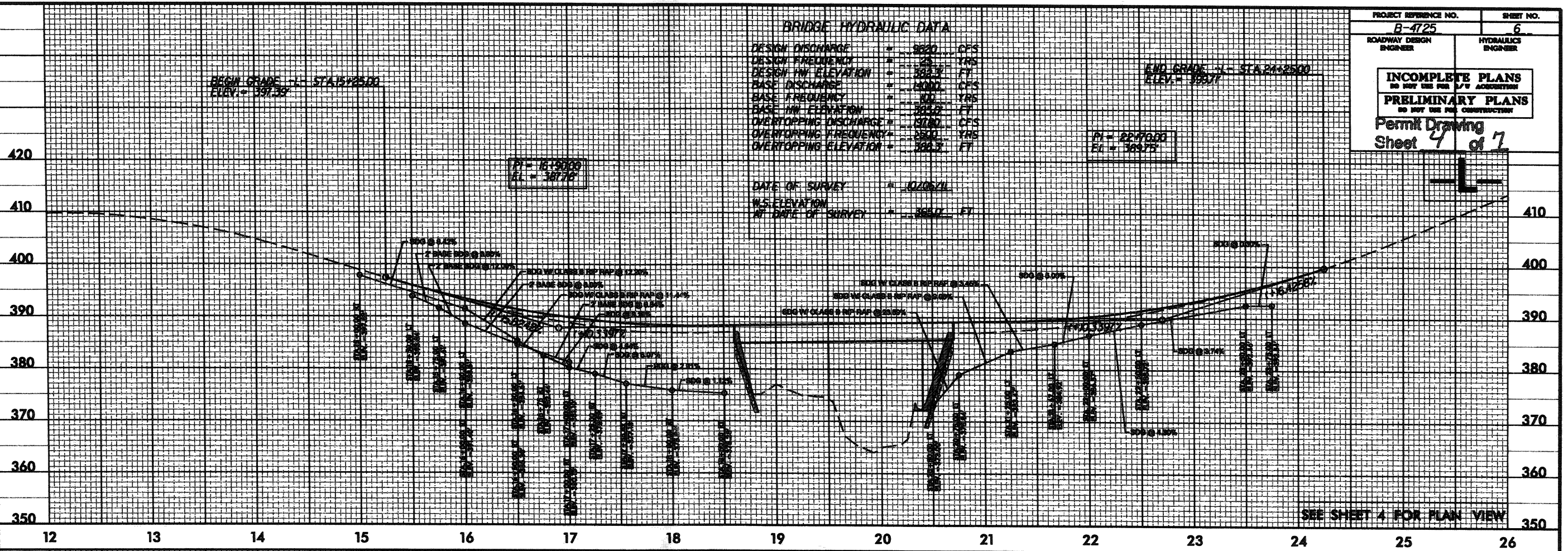
CLARENCE J. & EDNA WEAVER
DB 470 PG 106

3
RANDY B. WHITT
DB 52 PG 795
P85 PG 917

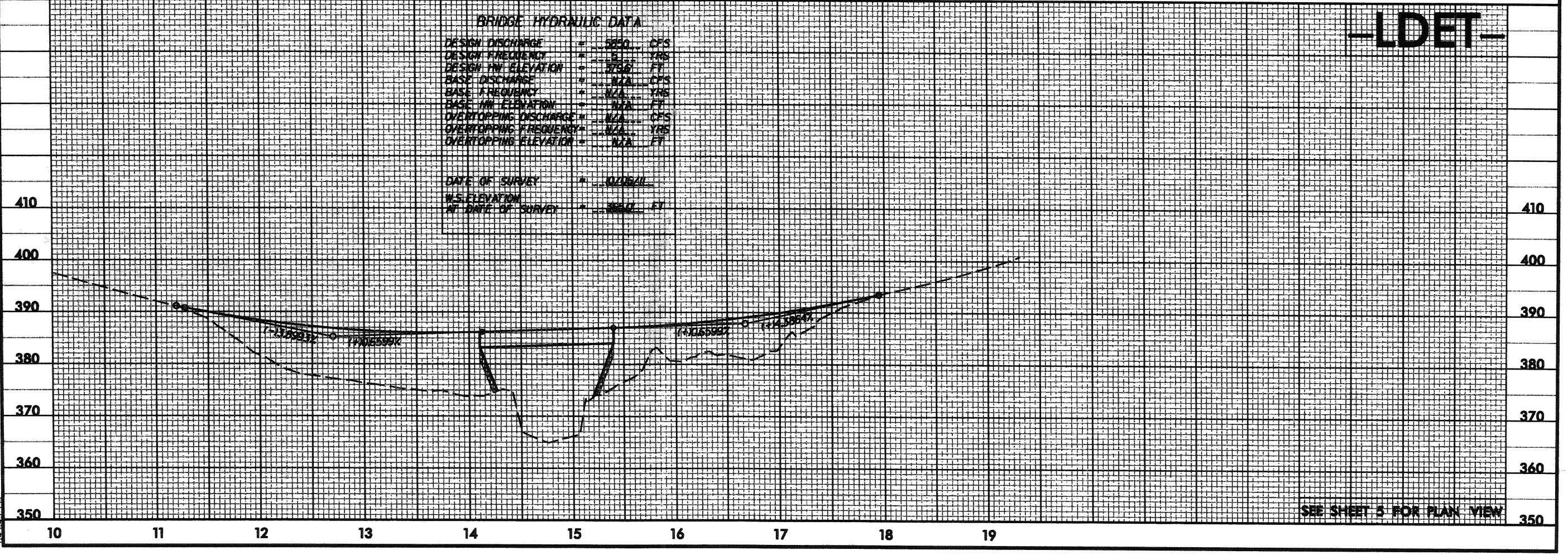


5/28/99

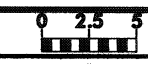
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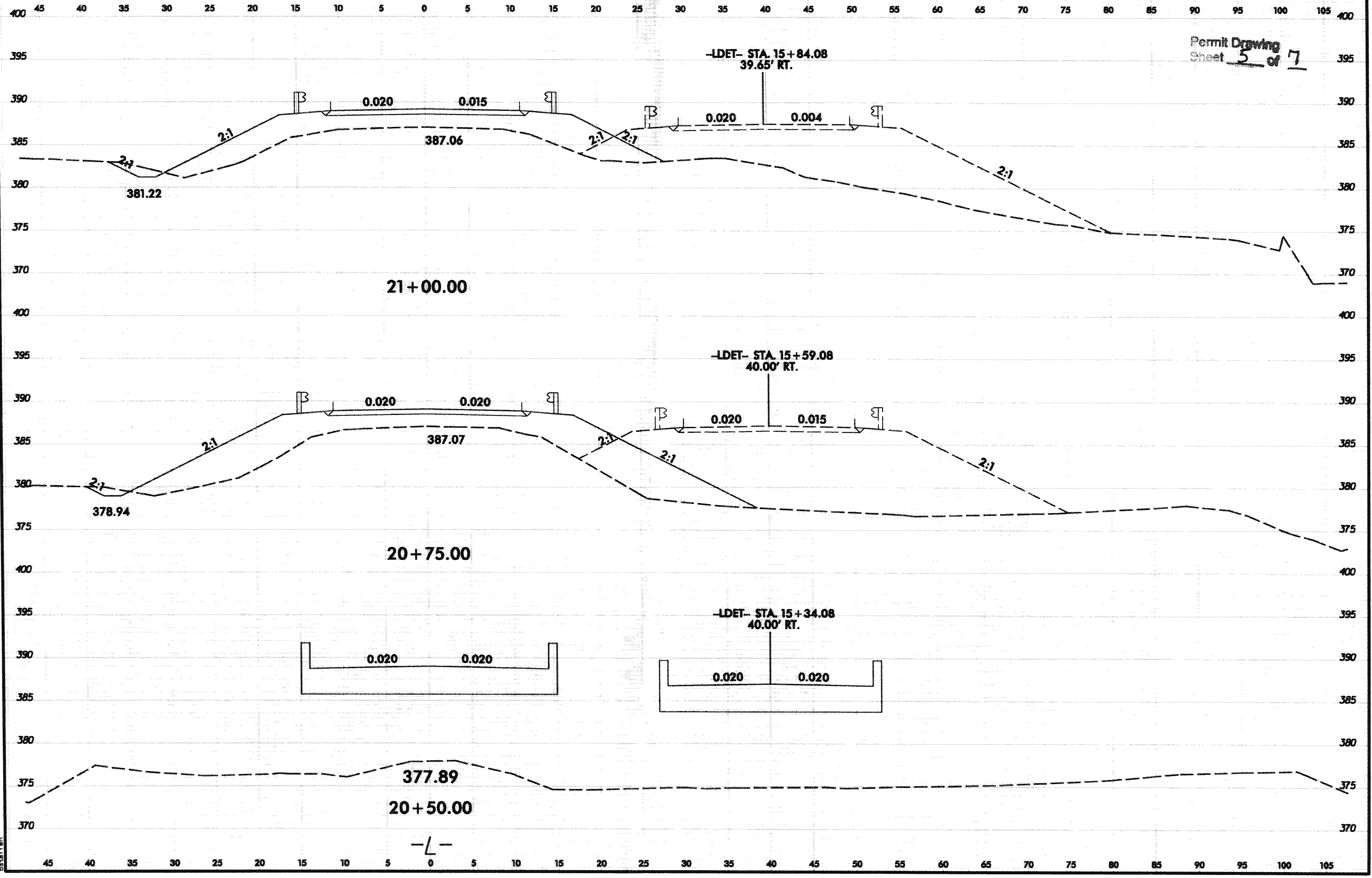
PROJECT REFERENCE NO.	B-4725	SHEET NO.	6
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/V ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			
Permit Drawing Sheet 4 of 7			



8/23/99



PROJ. REFERENCE NO. B-4725	SHEET NO. X-9
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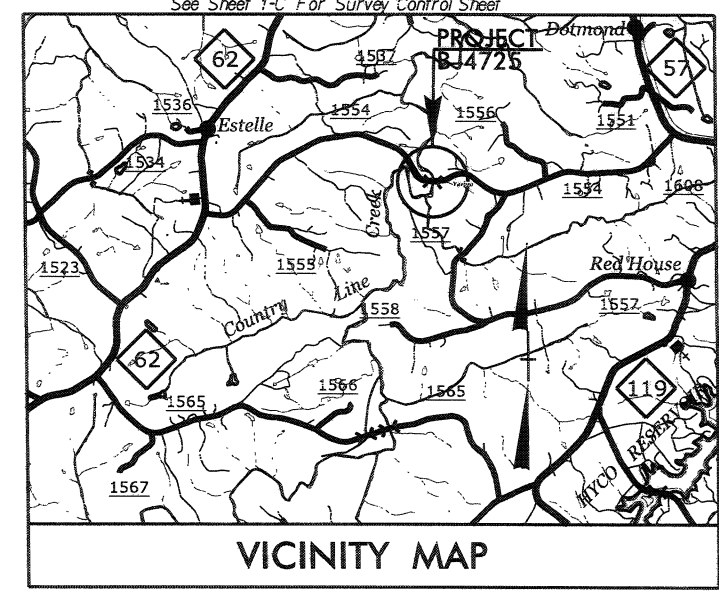


Permit Drawing
Sheet 5 of 7

S:\2002\B-4725\Roadway\Xsec\B4725_Rd1_xpl.dgn
 Date: 8/23/99

09.108.01

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



VICINITY MAP

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

CASWELL COUNTY

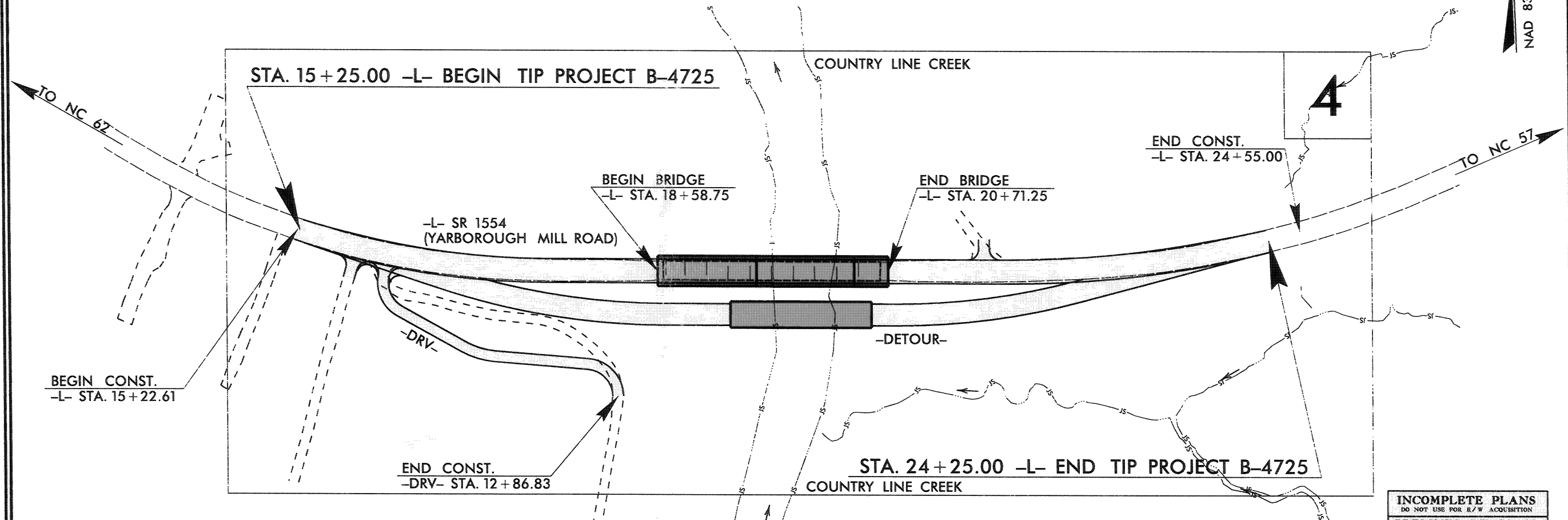
LOCATION: BRIDGE NO.12 OVER COUNTRY LINE CREEK
 ON SR 1554 (YARBOROUGH MILL ROAD)

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4725	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38499.1.1	BRZ-1554(4)	PE	

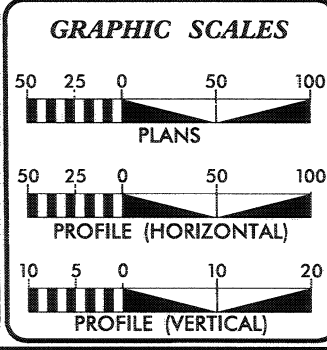
TIP PROJECT: B-4725

CONTRACT: C203079



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

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



DESIGN DATA

ADT 2012 = 970
ADT 2035 = 1500
DHV = 10 %
D = 55 %
T = 3 % *
V = 55 MPH
* TTST = 1% DUAL = 2%
FUNC. CLASS. = RURAL COLLECTOR
"SUB-REGIONAL TIER"

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4725 = 0.131 MILES
LENGTH STRUCTURE TIP PROJECT B-4725 = 0.040 MILES
TOTAL LENGTH OF TIP PROJECT B-4725 = 0.171 MILES

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

2012 STANDARD SPECIFICATIONS

PRODUCTION RIGHT OF WAY DATE: JULY 20, 2012
 PRODUCTION LETTING DATE: JANUARY 15, 2013

JAMES A. SPEER, PE
 PROJECT ENGINEER

DANIEL W. GARDNER, JR., PE
 PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



31-MAR-2012 15:13 P:\Roadway\Projects\4725\1.dwg - Copy.dgn

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	Ⓜ
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 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	-----

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:

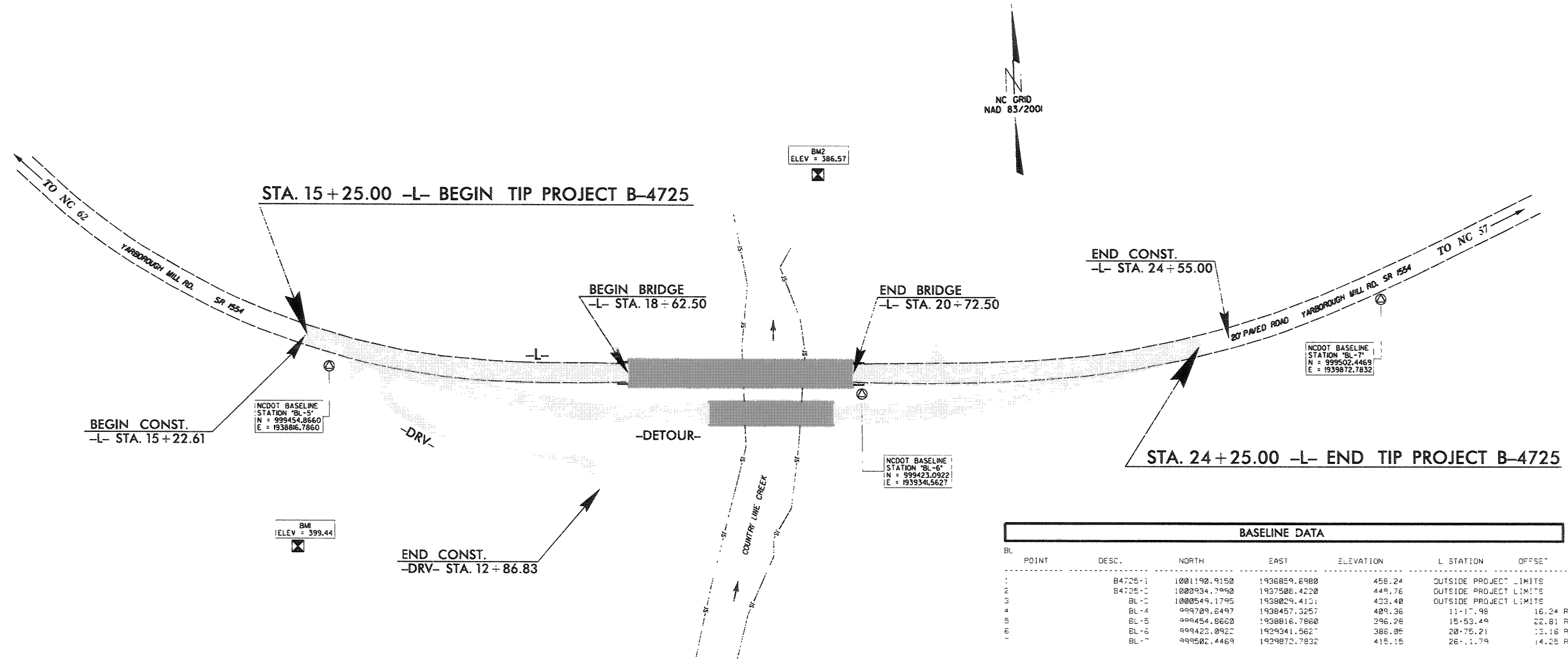
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

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	AATUR
End of Information	E.O.I.

B-4725 SURVEY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
B-4725	1-C
Location and Surveys	



BASELINE DATA							
BL	POINT	DESC.	NORTH	EAST	ELEVATION	L. STATION	OFFSET
1	B4725-1		1001190.9150	1936859.6980	458.24	OUTSIDE PROJECT LIMITS	
2	B4725-2		1000934.7999	1937508.4228	449.76	OUTSIDE PROJECT LIMITS	
3	BL-3		1000545.1795	193809.4151	423.40	OUTSIDE PROJECT LIMITS	
4	BL-4		999789.6497	1938457.3257	489.36	11+17.98	16.24 RT
5	BL-5		999454.8660	1938816.7860	396.28	15+53.49	22.81 RT
6	BL-6		999423.0922	1939341.5627	386.85	20+75.21	13.18 RT
7	BL-7		999502.4469	1939872.7832	415.15	26+11.79	14.25 RT

BENCHMARK DATA	
BM1	ELEVATION = 399.44
N 999275	E 1938791
L STATION 15+68.00 206 RIGHT	
RR SPIKE IN BASE OF 18' CEDAR	
BM2	ELEVATION = 386.57
N 999637	E 1939313
L STATION 20+41.00 200 LEFT	
RR SPIKE IN BASE OF 20' DOUBLE MAPLE	

ALIGN	STATION	OFFSE	PERMANENT EASEMENT-E	
			NORTH	EAST
L	24+30.00	30.00	999429.2312	1939781.4797
L	24+30.00	60.00	999399.9999	1939788.2274
L	24+55.00	30.00	999406.2962	1939733.9993
L	24+55.00	30.00	999435.3455	1939726.5892
L	18+03.00	-30.00	999532.7489	1939871.9845
L	17+81.00	-90.00	999523.2765	1939849.9108
L	17+81.00	-65.00	999508.2827	1939849.3112
L	18+03.00	-65.00	999507.7561	1939871.3849
L	17+08.00	-55.00	999502.8946	1939972.4047
L	15+50.00	-30.00	999505.2880	1939829.3217
L	25+16.00	-30.00	999509.9828	1939768.2892

TYPE	STATION	NORTH	EAST
PC	10+00.00	999817.8151	1938404.7785
PT	17+55.62	999443.9111	1939822.3886
PC	21+84.17	999423.8327	1939458.8067
PT	26+37.53	999526.1249	1939898.5161

NOTES

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project)
THE FILES TO BE FOUND ARE AS FOLLOWS:
B4725_LL3_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 FROM EXISTING NCSS MONUMENTATION.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4725-2" WITH NAD 83/2001 STATE PLANE GRID COORDINATES OF NORTHING: 1,000,934.799(ft) EASTING: 1,937,508.422(ft) ELEVATION: 449.76'(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.0000934918

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL DISTANCE FROM "B4725-2" TO -L- STATION 15+22.61 IS S 41° 35' 59" E 1,936.79'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

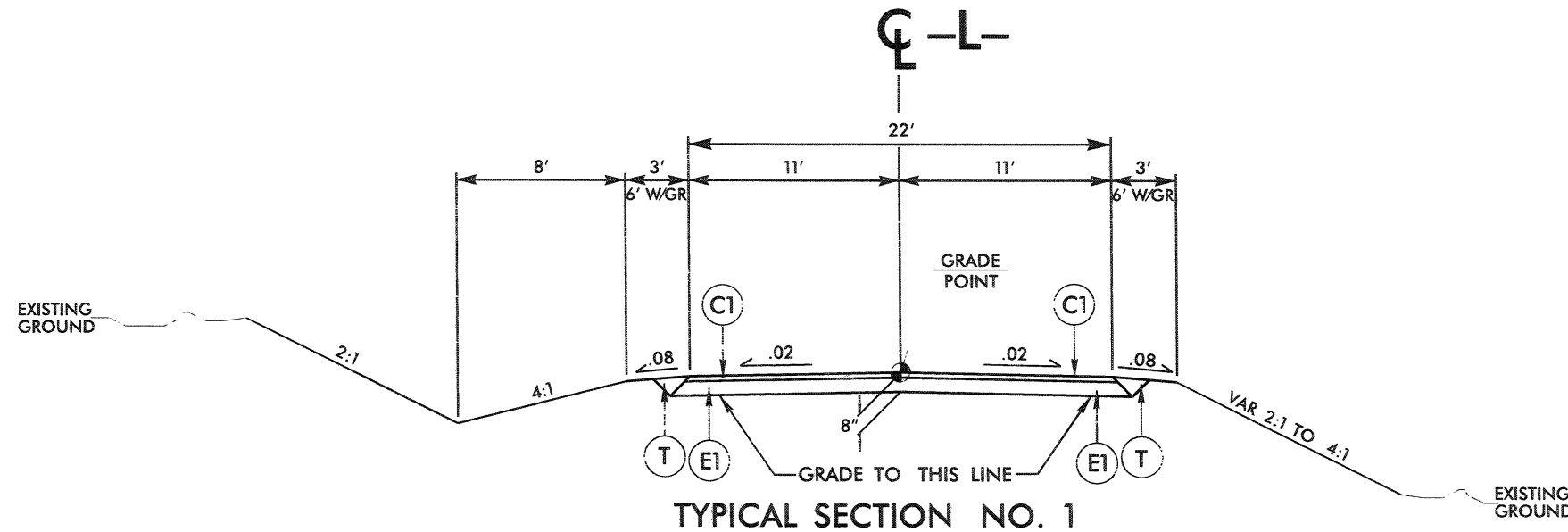
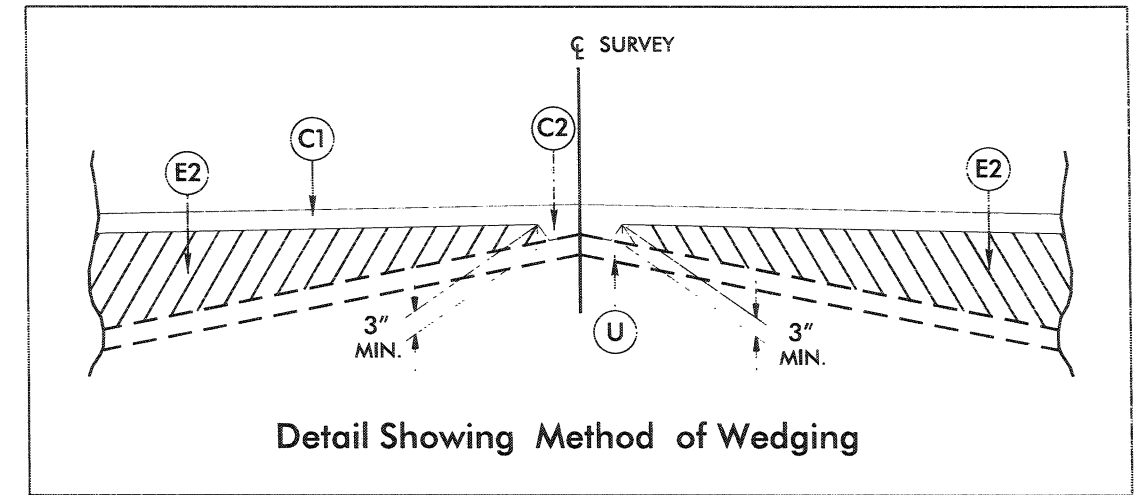
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6/22/99

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER " DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 5½" 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.
J	PROP. 6" AGGREGATE BASE COURSE.
P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).

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

PROJECT REFERENCE NO. B-4725	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

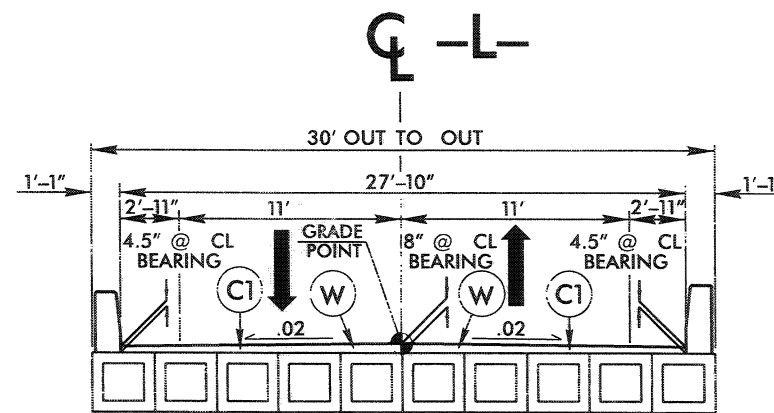


NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1
-L- STA. 15+25.00 TO STA. 15+75.00

USE TYPICAL SECTION NO. 1

-L- STA. 15+75.00 TO STA. 18+58.75 (BEGIN BRIDGE)
-L- STA. 20+71.25 (END BRIDGE) TO STA. 23+75.00

NOTE: TRANSITION FROM TYPICAL SECTION NO. 1 TO EXISTING
-L- STA. 23+75.00 TO STA. 24-25.00

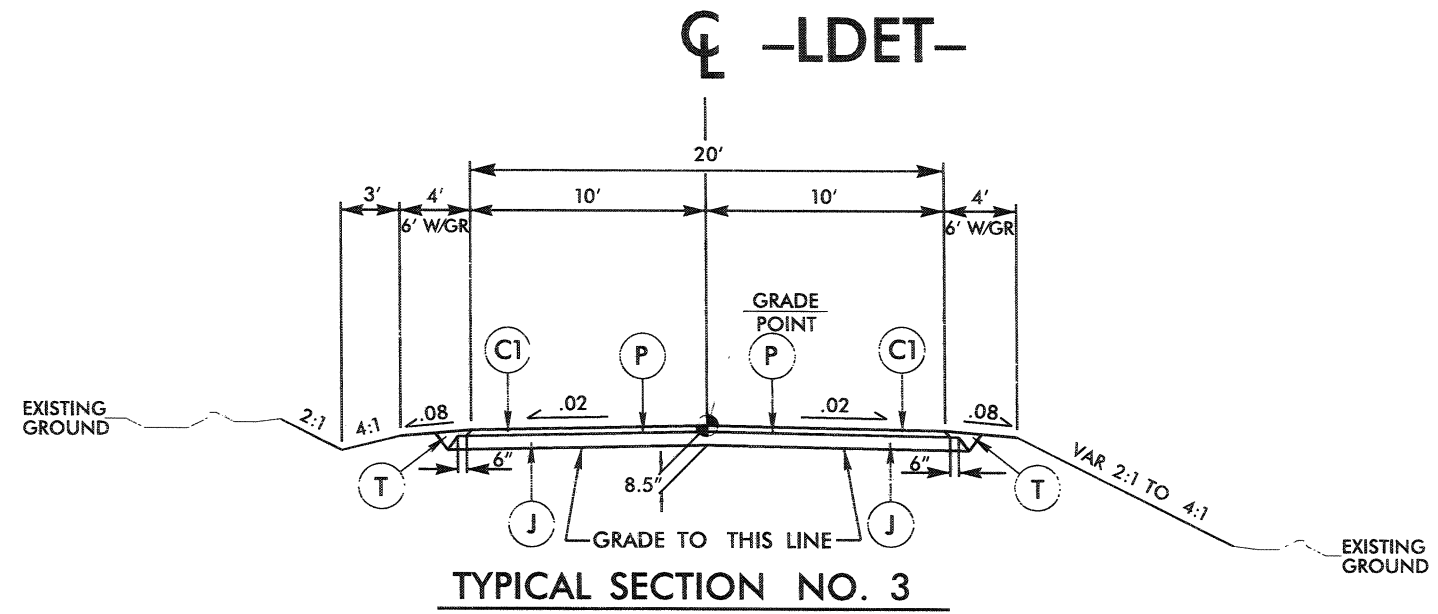


USE TYPICAL SECTION NO. 2

-L- STA. 18+58.75 (BEGIN BRIDGE) TO STA. 20-71.25 (END BRIDGE)

31-MAY-2002 15:43
R:\Roadway\B4725_rdy.txd
31-MAY-2002 15:43

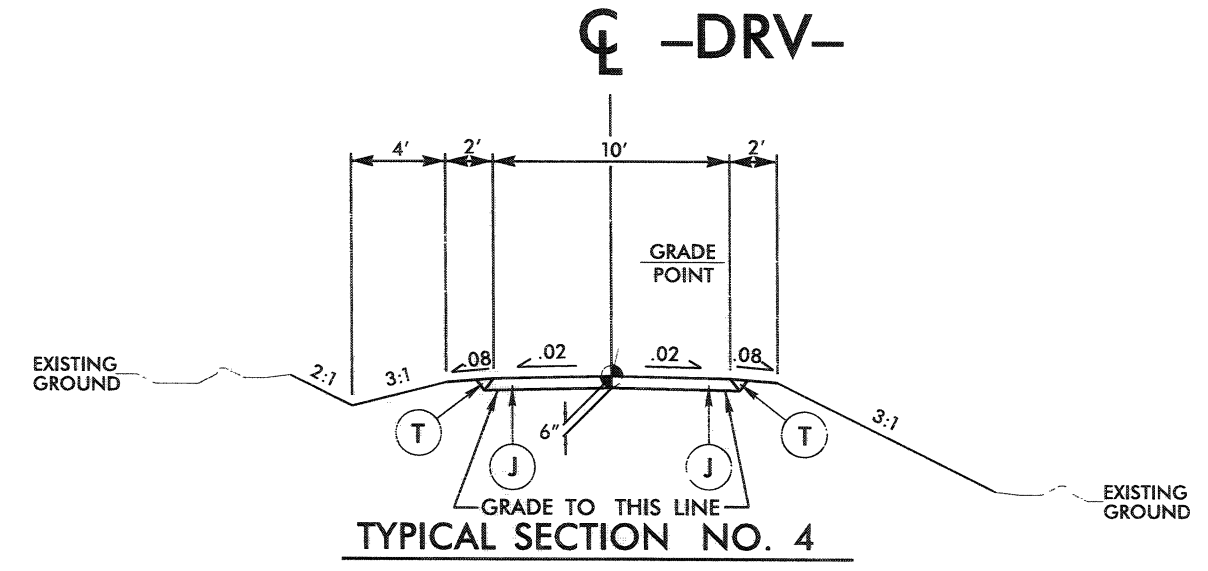
PAVEMENT SCHEDULE	
C1	2½" TYPE SF9.5A
C2	VAR. DEPTH TYPE SF9.5A
E1	5½" TYPE B25.0B
E2	VAR. DEPTH TYPE B25.0B
J	6" AGGREGATE BASE COURSE
P	PRIME COAT
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VAR. DEPTH ASPHALT PAVEMENT



NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 3
 -LDET- STA. 10+00.00 TO STA. 11-73.30

USE TYPICAL SECTION NO. 3
 -LDET- STA. 11+73.30 TO STA. 14+10.00 +/- (BEGIN BRIDGE)
 -LDET- STA. 15+40.00 +/- (END BRIDGE) TO STA. 17+39.83

NOTE: TRANSITION FROM TYPICAL SECTION NO. 3 TO EXISTING
 -LDET- STA. 17+39.83 TO STA. 19-31.00



USE TYPICAL SECTION NO. 4
 -DRV- STA. 10+20.92 TO STA. 12+86.83

6/2/09

31-MAY-2012 15:13
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STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK
 IN CUBIC YARDS

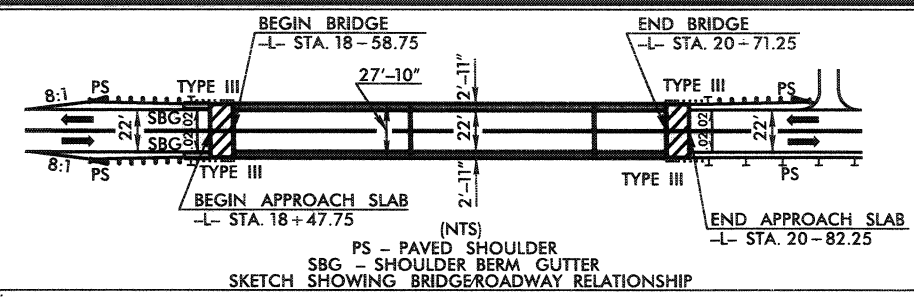
LOCATION	UNCL. EXCAV.	EMBANK. + %	BORROW	WASTE
PHASE NO. I (DETOUR)				
-LDET- STA. 10+00.00 TO STA. 14+40.00	51	4827	4776	
-LDET- STA. 15+40.00 TO STA. 19+31.00	6	3712	3706	
-DRV- STA. 10+11.00 TO STA. 12+86.83	21	86	65	
PHASE NO. I TOTALS	78	8625	8547	
PHASE NO. II (-L-)				
-L- STA. 16+50.00 TO STA. 18+58.75	2	801	799	
-L- STA. 20+71.25 TO STA. 22+75.00	46	521	475	
PHASE NO. II TOTALS	48	1322	1274	
PHASE NO. III (DETOUR REMOVAL)				
-LDET- STA. 10+00.00 TO STA. 14+10.00	2347	164		2183
-LDET- STA. 15+40.00 TO STA. 19+31.00	2780	86		2694
PHASE NO. III TOTALS	5127	250		4877
SUMMARY TOTALS	5253	10197	9821	4877
PROJECT TOTALS	5253	10197	9821	4877
5% TO REPLACE TOPSOIL ON BORROW PIT			492	
PROJECT GRAND TOTALS	5253	10197	10313	4877
SAY	5300		10350	
EST. UNDERCUT CONTINGENCY = 300 CY				
GEOTEXTILE FOR SOIL STABILIZATION = 300 SY				
SELECT GRANULAR MATERIAL = 300 CY				

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

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."

8/17/99

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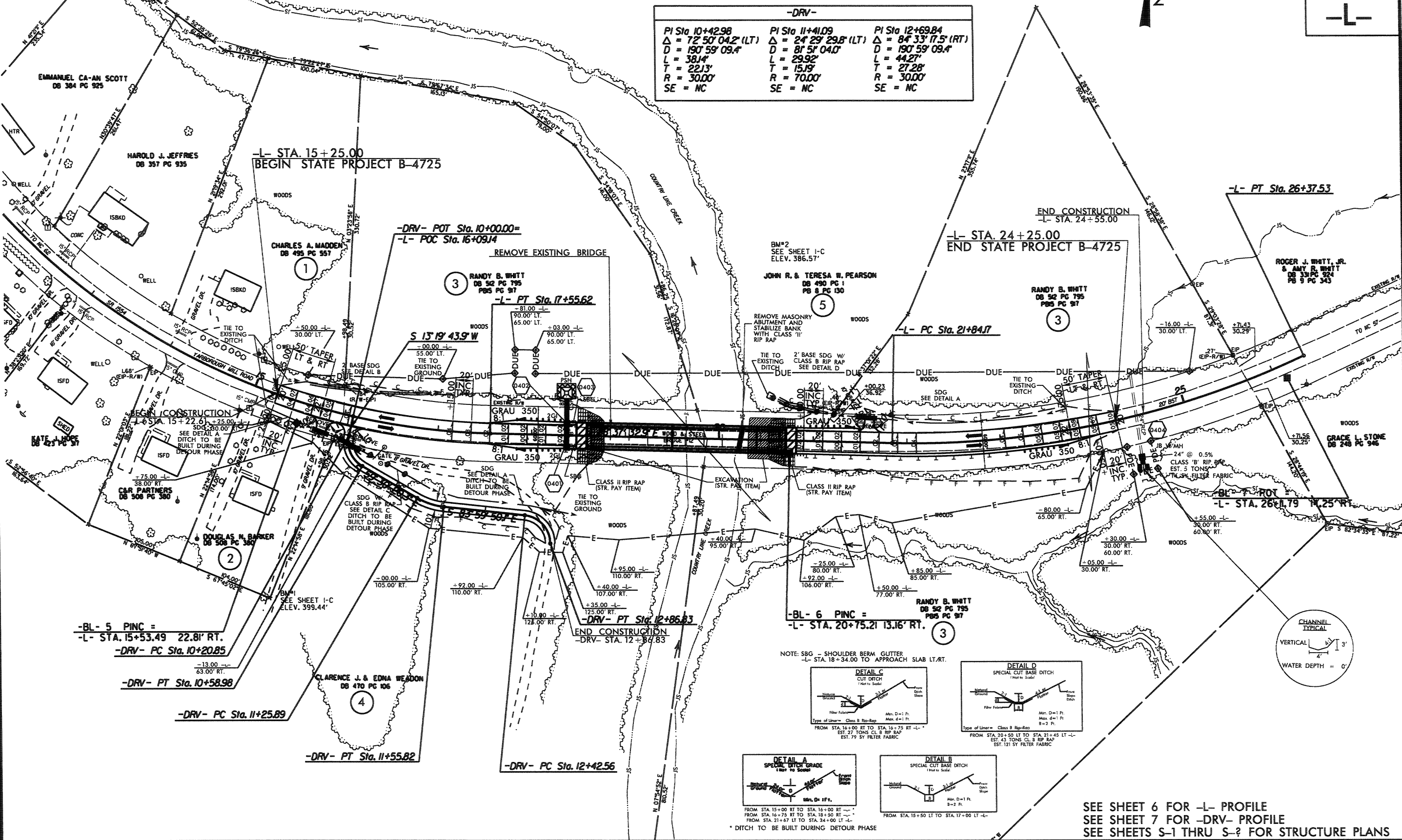
-L-	
PI Sta 14+16.07	PI Sta 24+14.98
$\Delta = 59' 38'' 00.4''$ (LT)	$\Delta = 26' 30'' 21.4''$ (LT)
D = 7' 53' 31.1"	D = 5' 50' 47.4"
L = 755.62'	L = 453.36'
T = 416.07'	T = 230.81'
R = 726.00'	R = 980.00'
SE = SEE PLANS	SE = SEE PLANS

-DRV-		
PI Sta 10+42.98	PI Sta 11+41.09	PI Sta 12+69.84
$\Delta = 72' 50'' 04.2''$ (LT)	$\Delta = 24' 29'' 29.8''$ (LT)	$\Delta = 84' 33'' 17.5''$ (RT)
D = 190' 59' 09.4"	D = 81' 51' 04.0"	D = 190' 59' 09.4"
L = 381.4'	L = 29.92'	L = 44.27'
T = 221.3'	T = 15.19'	T = 27.28'
R = 30.00'	R = 70.00'	R = 30.00'
SE = NC	SE = NC	SE = NC

PROJECT REFERENCE NO. B-4725	SHEET NO. 4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NAD 83/2001

-L-



-BL- 5 PINC =
-L- STA. 15+53.49 22.81' RT.
-DRV- PC Sta. 10+20.85
-DRV- PT Sta. 10+58.98

-DRV- PC Sta. 11+25.89

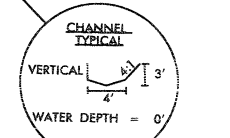
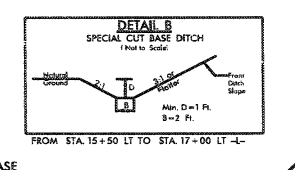
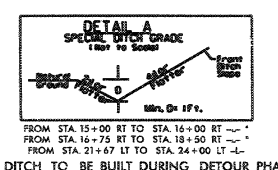
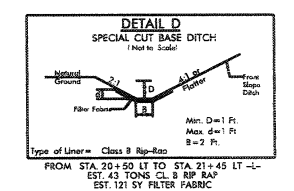
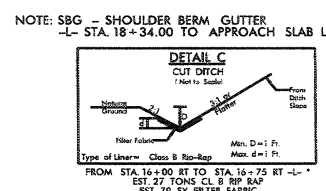
-DRV- PT Sta. 11+55.82

-DRV- PC Sta. 12+42.56

-DRV- PT Sta. 12+86.83
END CONSTRUCTION
-DRV- STA. 12+86.83

-BL- 6 PINC =
-L- STA. 20+75.21 13.16' RT.

RANDY B. WHITT
DB 52 PG 795
PB 5 PG 97

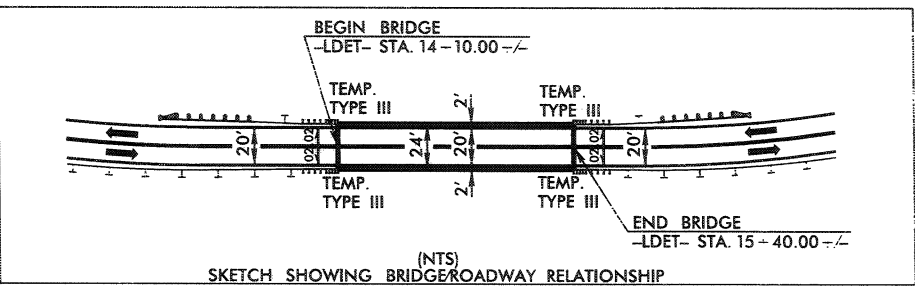


NOTE: SBG - SHOULDER BERM GUTTER
-L- STA. 18+34.00 TO APPROACH SLAB LT./RT.

SEE SHEET 6 FOR -L- PROFILE
SEE SHEET 7 FOR -DRV- PROFILE
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

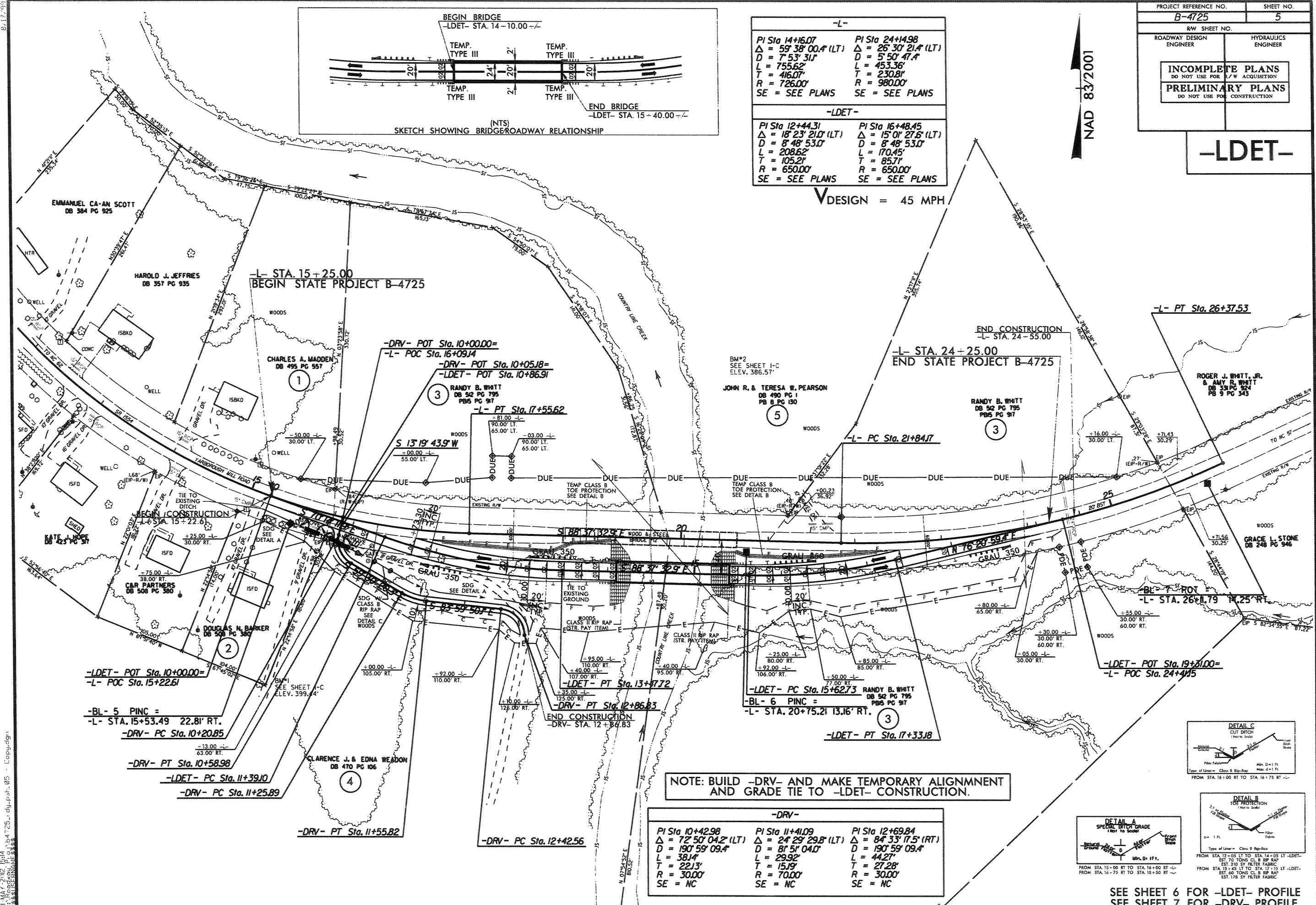
-LDET-

NAD 83/2001



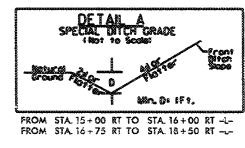
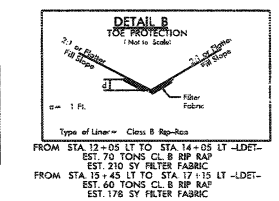
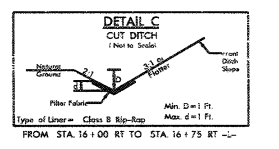
-L-	
PI Sta 14+16.07 Δ = 59° 38' 00.4" (LT) D = 7° 53' 31.1" L = 755.62' T = 416.07' R = 726.00' SE = SEE PLANS	PI Sta 24+14.98 Δ = 26° 30' 21.4" (LT) D = 5° 50' 47.4" L = 453.36' T = 230.81' R = 980.00' SE = SEE PLANS
-LDET-	
PI Sta 12+44.31 Δ = 18° 23' 21.0" (LT) D = 8° 48' 53.0" L = 208.62' T = 105.21' R = 650.00' SE = SEE PLANS	PI Sta 16+48.45 Δ = 15° 01' 27.6" (LT) D = 8° 48' 53.0" L = 170.45' T = 85.71' R = 650.00' SE = SEE PLANS

V DESIGN = 45 MPH



NOTE: BUILD -DRV- AND MAKE TEMPORARY ALIGNMENT AND GRADE TIE TO -LDET- CONSTRUCTION.

-DRV-		
PI Sta 10+42.98 Δ = 72° 50' 04.2" (LT) D = 190° 59' 09.4" L = 38.14' T = 22.13' R = 30.00' SE = NC	PI Sta 11+41.09 Δ = 24° 29' 29.8" (LT) D = 81° 51' 04.0" L = 29.92' T = 15.19' R = 30.00' SE = NC	PI Sta 12+69.84 Δ = 84° 33' 17.5" (RT) D = 190° 59' 09.4" L = 44.27' T = 27.28' R = 30.00' SE = NC



SEE SHEET 6 FOR -LDET- PROFILE
SEE SHEET 7 FOR -DRV- PROFILE

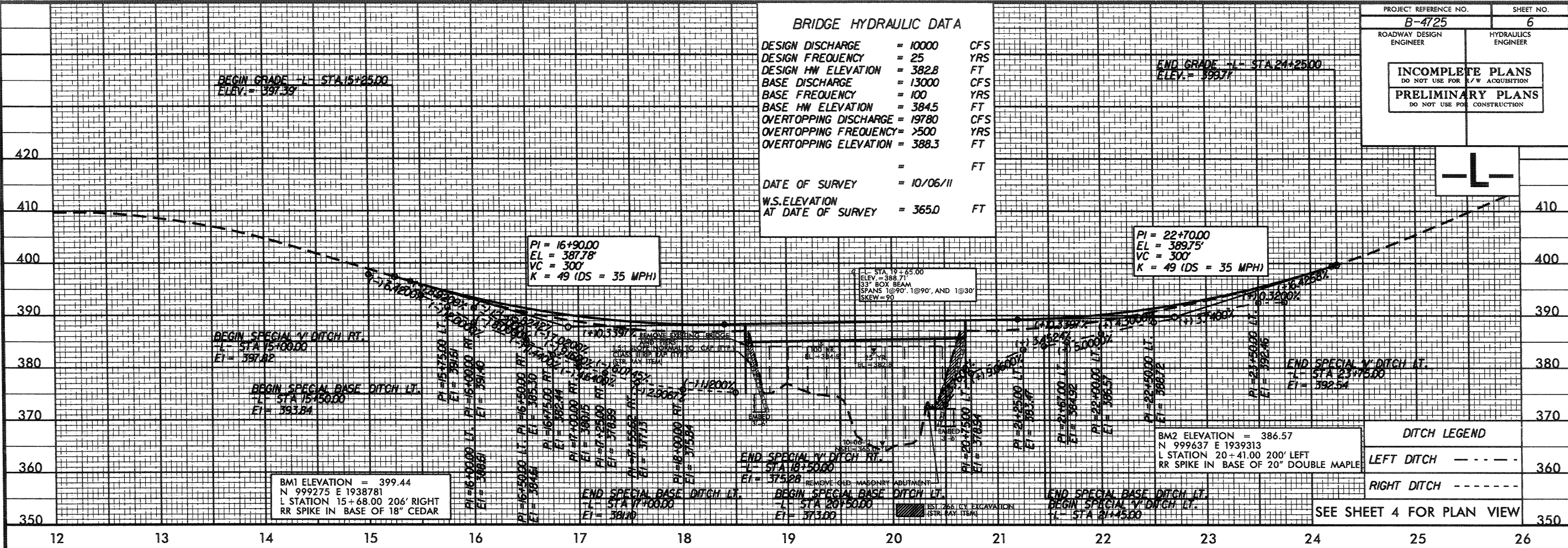
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5/28/09

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE = 10000 CFS
 DESIGN FREQUENCY = 25 YRS
 DESIGN HW ELEVATION = 382.8 FT
 BASE DISCHARGE = 13000 CFS
 BASE FREQUENCY = 100 YRS
 BASE HW ELEVATION = 384.5 FT
 OVERTOPPING DISCHARGE = 19780 CFS
 OVERTOPPING FREQUENCY = >500 YRS
 OVERTOPPING ELEVATION = 388.3 FT

DATE OF SURVEY = 10/06/11
 W.S.ELEVATION AT DATE OF SURVEY = 365.0 FT



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-LDET-

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE = 6300 CFS
 DESIGN FREQUENCY = 5 YRS
 DESIGN HW ELEVATION = 380.0 FT
 BASE DISCHARGE = N/A CFS
 BASE FREQUENCY = N/A YRS
 BASE HW ELEVATION = N/A FT
 OVERTOPPING DISCHARGE = N/A CFS
 OVERTOPPING FREQUENCY = N/A YRS
 OVERTOPPING ELEVATION = N/A FT

DATE OF SURVEY = 10/06/11
 W.S.ELEVATION AT DATE OF SURVEY = 365.0 FT

