



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY  
GOVERNOR

ANTHONY J. TATA  
SECRETARY

March 20, 2014

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

ATTN: Mr. John Thomas  
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permits 13 and 33 and Section 401 Water Quality Certification** for the replacement of Bridge No. 38 over Muddy Creek on SR 1493 (Frye Bridge Road) in Davidson County, Federal Aid Project No. BRZ-1493(2); Division 9; TIP No. B-4741

Debit \$240.00 from WBS Element 38514.1.1

Please see enclosed copies of the Pre-Construction Notification (PCN) form, final jurisdictional determination, stormwater management plan, permit drawings and design plans for the above mentioned project. For impact totals, please see the PCN.

The proposed let date for the project is December 16, 2014 with a review date of October 28, 2014. However, the let date may advance as additional funding becomes available.

A copy of this permit application and its distribution list will be posted on the NCDOT website at <https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx>, under *Quick Links > Permit Applications*. A copy of the CE is also available at the above website address under *Quick Links > Environmental Documents*.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Jason Dilday at [jldilday@ncdot.gov](mailto:jldilday@ncdot.gov) or (919) 707-6111.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard W. Hancock".

Richard W. Hancock, P.E., Manager  
Project Development and Environmental Analysis Unit

cc: NCDOT Permit Application Standard Distribution List

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

TELEPHONE: 919-707-6000  
FAX: 919-212-5785  
WEBSITE: [NCDOT.GOV](http://NCDOT.GOV)

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



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

## Pre-Construction Notification (PCN) Form

### A. Applicant Information

#### 1. Processing

1a. Type(s) of approval sought from the Corps:	<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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):		
<input checked="" type="checkbox"/> 401 Water Quality Certification – Regular <span style="margin-left: 100px;"><input type="checkbox"/> Non-404 Jurisdictional General Permit</span> <input type="checkbox"/> 401 Water Quality Certification – Express <span style="margin-left: 100px;"><input type="checkbox"/> Riparian Buffer Authorization</span>		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	For the record only for Corps Permit: <input 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 checked="" type="checkbox"/> No

#### 2. Project Information

2a. Name of project:	Replacement of Bridge 38 over Muddy Creek on SR 1493 (Frye Bridge Road)
2b. County:	Davidson
2c. Nearest municipality / town:	Clemmons
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-4741

#### 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) 707-6111
3g. Fax no.:	(919) 212-5785
3h. Email address:	jldilday@ncdot.gov

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

<b>B. Project Information and Prior Project History</b>	
<b>1. Property Identification</b>	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 35.976361 (DD.DDDDDD) Longitude: - 80.339033 (-DD.DDDDDD)
1c. Property size:	6.6 acres
<b>2. Surface Waters</b>	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Muddy Creek
2b. Water Quality Classification of nearest receiving water:	C
2c. River basin:	Yadkin-Pee Dee
<b>3. Project Description</b>	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: Residential and Developed Land	
3b. List the total estimated acreage of all existing wetlands on the property: 0.0 acre	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 600 linear feet	
3d. Explain the purpose of the proposed project: To replace a structurally deficient and functionally obsolete bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a nine span, 270-foot bridge with a four span, 285-foot bridge on the existing alignment with an off-site detour. The new bridge will be built downstream of the existing bridge which will allow traffic to be maintained on the existing bridge until the new bridge and associated roadway approaches are completed. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
<b>4. Jurisdictional Determinations</b>	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input checked="" type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): James Pflaum (NCDOT)	Agency/Consultant Company: Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. Approved JD by John Thomas (USACE) issued 12/20/2007, expired 12/20/2012.	
<b>5. Project History</b>	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	
<b>6. Future Project Plans</b>	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

**C. Proposed Impacts Inventory**

**1. Impacts Summary**

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

- Wetlands                       Streams - tributaries                       Buffers  
 Open Waters                       Pond Construction

**2. Wetland Impacts**

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

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

2h. Comments:

**3. Stream Impacts**

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stabilization	Muddy Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input checked="" type="checkbox"/> DWQ	100	60
Site 2 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temp. Dewatering	UT to Muddy Creek	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input checked="" type="checkbox"/> DWQ	1	10
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
<b>3h. Total stream and tributary impacts</b>						60 Perm 10 Temp

3i. Comments: Temporary stream impact to UT to Muddy Creek is for temporary dewatering where grading will occur to direct stormwater.

**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				
<b>4f. Total open water impacts</b>				0 Permanent 0 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								
<b>5f. Total</b>								

5g. Comments:

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

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

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

6a. Project is in which protected basin?		<input type="checkbox"/> Neuse <input type="checkbox"/> Catawba		<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman		<input type="checkbox"/> Other: Jordan	
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)		
B1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
B2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
B3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
<b>6h. Total buffer impacts</b>					<b>0</b>		
6i. Comments:							

**D. Impact Justification and Mitigation**

**1. Avoidance and Minimization**

1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.  
 See Stormwater Management Plan. The existing 9 span bridge will be replaced with a 4 span structure. The new bridge will be constructed parallel to the existing bridge which will allow traffic to be maintained on the existing bridge. The proposed bridge will have three piers that are aligned so as not to be placed in the water. Drainage was designed to utilize existing outfalls and ditches when possible. Newly designed ditches were designed to produce non-erosive velocities. Rip rap pads and preformed scour holes were used at pipe outlets. Deck drains were not placed to outlet over the creek. Deck drains were outleted to rip rap dissipator pads.

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.  
 Best Management Practices for Surface Waters will be used during all phases of construction.

**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 No mitigation required per conversation with Ronnie Smith (USACE) on 11/18/2013.
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	<input type="checkbox"/> DWQ <input type="checkbox"/> Corps
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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
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**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
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4b. Stream mitigation requested:	0 linear feet
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4c. If using stream mitigation, stream temperature:	<input type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold
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4d. Buffer mitigation requested (DWQ only):	0 square feet
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4e. Riparian wetland mitigation requested:	0 acres
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4f. Non-riparian wetland mitigation requested:	0 acres
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4g. Coastal (tidal) wetland mitigation requested:	0 acres
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4h. Comments:

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

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

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

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

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

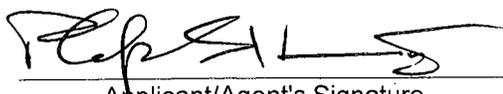
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1				
Zone 2				
<b>6f. Total buffer mitigation required:</b>				

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

6h. Comments:

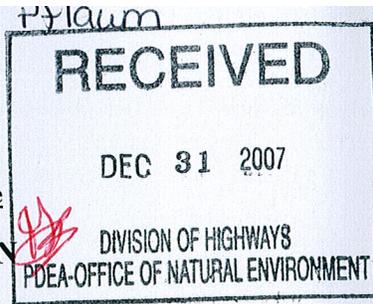
<b>E. Stormwater Management and Diffuse Flow Plan (required by DWQ)</b>	
<b>1. Diffuse Flow Plan</b>	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/>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

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

<b>5. Endangered Species and Designated Critical Habitat (Corps Requirement)</b>		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input checked="" 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? N.C. Natural Heritage Program database; USFWS-Raleigh Field Office website; biological surveys for protected species listed for Davidson County, which include the bog turtle and Schweinitz's sunflower. All species received a Biological Conclusion of "No Effect". No survey was required for bog turtle. Habitat for Schweinitz's sunflower exists, but a survey conducted of the study area on 10/1/2012 resulted in no specimens being found.		
<b>6. Essential Fish Habitat (Corps Requirement)</b>		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
<b>7. Historic or Prehistoric Cultural Resources (Corps Requirement)</b>		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
<b>8. Flood Zone Designation (Corps Requirement)</b>		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input 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		
 Richard W. Hancock, P.E. Applicant/Agent's Printed Name	 Applicant/Agent's Signature <small>(Agent's signature is valid only if an authorization letter from the applicant is provided.)</small>	03/21/2014 Date



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



Action Id. 200704153

County: Davidson

U.S.G.S. Quad: Welcome

**NOTIFICATION OF JURISDICTIONAL DETERMINATION**

Property Owner/Agent: James Pflaum  
Address: NC DOT  
1598 Mail Service Center  
Raleigh, NC 27699-1598  
Telephone No.: 919 715-7217

Property description:  
Size (acres) 2 Nearest Town Arcadia  
Nearest Waterway Muddy Creek River Basin Yadkin River  
USGS HUC 03040101 Coordinates N 35.9762416 W -80.3390215  
Location description Bridge 38 on SR 1493 adjacent to Muddy Creek, north of Arcadia, in Davidson County, North Carolina. *TIP B4741*

**Indicate Which of the Following Apply:**

**A. Preliminary Determination**

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

**B. Approved Determination**

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

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

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

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

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

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

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

Action ID: \_\_\_\_\_

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact **John Thomas** at **919 876-8441 ext. 25**.

**C. Basis For Determination**

**There are stream channels within your project site which are tributaries of Muddy Creek which flows into the Yadkin River and the Atlantic Ocean.**

**D. Remarks**

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

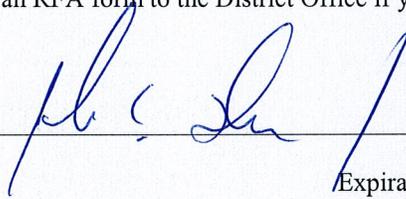
This correspondence constitutes an approved jurisdictional determination for the above described site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and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

District Engineer, Wilmington Regulatory Division  
Attn: Jean Manuele, Project Manager,  
Raleigh Regulatory Field Office  
6508 Falls of the Neuse Road, Suite 120  
Raleigh, North Carolina 27615

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **February 20, 2008**.

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

Corps Regulatory Official: \_\_\_\_\_



Date **December 20, 2007**

Expiration Date **12/20/2012**

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

Copy furnished:

## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: NC DOT / James Pflaum	File Number: SAW 2007 04153	Date: December 20, 2007
Attached is:		See Section below
<input type="checkbox"/> INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
<input type="checkbox"/> PROFFERED PERMIT (Standard Permit or Letter of permission)		B
<input type="checkbox"/> PERMIT DENIAL		C
<input checked="" type="checkbox"/> APPROVED JURISDICTIONAL DETERMINATION		D
<input type="checkbox"/> PRELIMINARY JURISDICTIONAL DETERMINATION		E

**SECTION I -** The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.**

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT: You may accept or appeal the permit**

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the district engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

If you have questions regarding this decision and/or the appeal process you may contact:

If you only have questions regarding the appeal process you may also contact:

Mr. Mike Bell, Administrative Appeal Review Officer

CESAD-ET-CO-R

U.S. Army Corps of Engineers, South Atlantic Division

60 Forsyth Street, Room 9M15

Atlanta, Georgia 30303-8801

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

\_\_\_\_\_  
Signature of appellant or agent.

Date:

Telephone number:

**For appeals on Initial Proffered Permits and approved Jurisdictional Determinations send this form to:**

**District Engineer, Wilmington Regulatory Division, Attn: Jean Manuele, Project Manager, Raleigh Regulatory Field Office, 6508 Falls of the Neuse Road, Suite 120, Raleigh, North Carolina 27615**

**For Permit denials and Proffered Permits send this form to:**

**Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Mike Bell, Administrative Appeal Officer, CESAD-ET-CO-R, 60 Forsyth Street, Room 9M15, Atlanta, Georgia 30303-8801**



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



(Version 1.2; Released September 2011)

**General Project Information**

<b>Project No.:</b>	B-4741	<b>Project Type:</b>	Bridge Replacement	<b>Date:</b>	1/25/2014
<b>NCDOT Contact:</b>	Bill Zerman, PE	<b>Contractor / Designer:</b>	Walter Roberts, PE		
<b>Address:</b>	NCDOT Hydraulics Unit 1590 Mail Service Center Raleigh, NC 27699	<b>Address:</b>	The Louis Berger Group, Inc. 1001 Wade Avenue Suite 400 Raleigh, NC 27605		
	<b>Phone:</b> 919-707-6700		<b>Phone:</b>	919-866-4400	
	<b>Email:</b> bzerman@ncdot.gov		<b>Email:</b>	wroberts@louisberger.com	
<b>City/Town:</b>	Clemmons	<b>County(ies):</b>	Davidson		
<b>River Basin(s):</b>	Yadkin-Pee Dee	<b>CAMA County?</b>	No		
<b>Primary Receiving Water:</b>	Muddy Creek	<b>NCDWQ Stream Index No.:</b>	12-94-(0.5)		
<b>NCDWQ Surface Water Classification for Primary Receiving Water</b>	<b>Primary:</b>	Class C			
	<b>Supplemental:</b>				
<b>Other Stream Classification:</b>	None				
<b>303(d) Impairments:</b>	None				
<b>Buffer Rules in Effect</b>	N/A				

**Project Description**

<b>Project Length (lin. Miles or feet):</b>	0.303 mi.	<b>Surrounding Land Use:</b>	rural, low residential, farmland		
	<b>Proposed Project</b>		<b>Existing Site</b>		
<b>Project Built-Upon Area (ac.)</b>	1.52 ac.		1.24 ac.		
<b>Typical Cross Section Description:</b>	2-11' lanes with 6' shoulders having 4' paved and 2' earth.		2-12' lanes with 2' shoulders.		
<b>Average Daily Traffic (veh/hr/day):</b>	<b>Design/Future:</b>	5600	<b>Existing:</b>	2300	

**General Project Narrative:**

Bridge #38 over Muddy Creek on SR 1493 (Frye Bridge Road) was deemed structurally deficient and is being replaced with a new structure. The existing 9 span concrete bridge is being replaced with a 4 span 39" concrete box beam structure. The new bridge will be constructed parallel to the existing bridge on the downstream side which will allow traffic to be maintained on the existing bridge until the new bridge and associated roadway approaches can be completed. The proposed bridge will have three piers and will span the creek, eliminating the placement of a pier in the water thus greatly reducing scour potential and debris potential as compared to the existing bridge. The existing structure has eight piers with one pier residing in the center of the creek. The drainage was designed to utilize as many existing outfalls and existing ditches as possible. Newly constructed lateral and cut ditches were designed to produce non-erosive velocities. Rip rap outlet pads and preformed scour holes were used at pipe outlet locations to reduce velocity and promote sheet flow. Deck drains were placed on the proposed structure to control spread but were not outletted over the creek. The deck drains were outletted onto rip rap dissipator pads away from the creek to avoid direct discharge into surface waters.

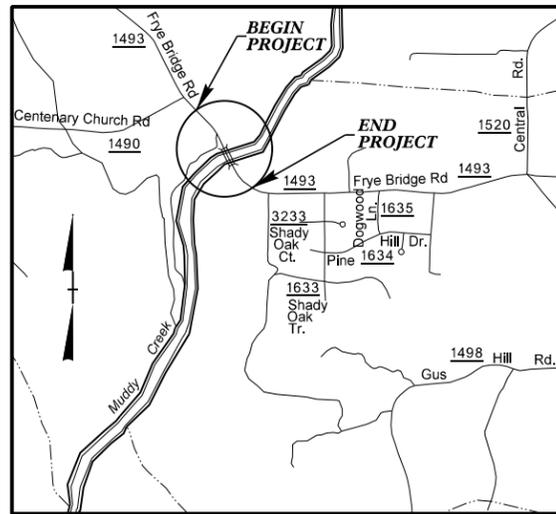
**References**





09/05/99

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



**VICINITY MAP**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**DAVIDSON COUNTY**

**LOCATION: BRIDGE NO. 38 OVER MUDDY CREEK  
ON SR 1493 (FRYE BRIDGE ROAD)**

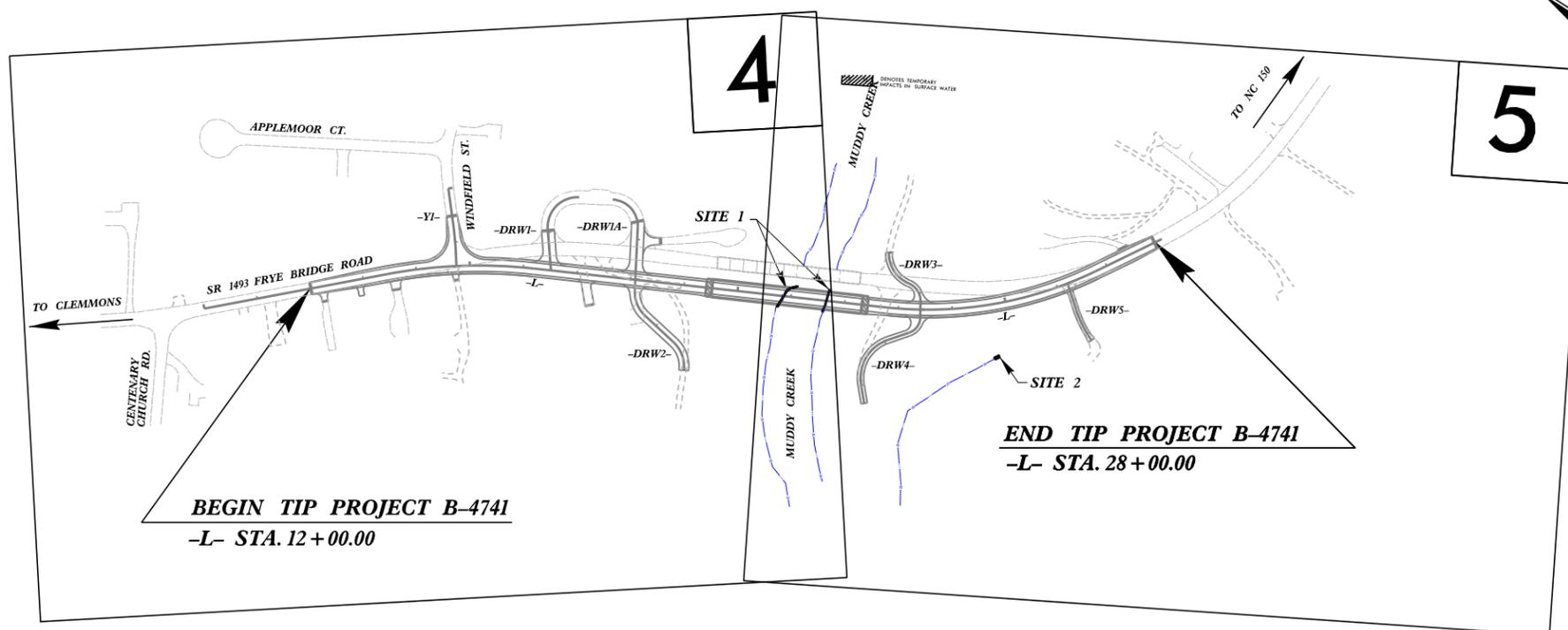
**TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4741	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38514.1.1	BRZ-1493(2)	P.E.	
38514.2.FD1	BRZ-1493(2)	R/W & UTIL.	

**PERMIT DRAWING  
SHEET 1 OF 7**



**WETLAND & SURFACE WATER IMPACTS PERMIT**

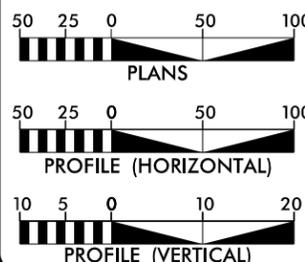


THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

**PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION**

**CONTRACT:**

**GRAPHIC SCALES**



**DESIGN DATA**

ADT 2015 = 3,743 VPD  
ADT 2035 = 5,600 VPD  
DHV = 13 %  
D = 60 %  
\* T = 3 %  
V = 50 MPH  
\*(TTST 1% + DUAL 2%)  
FUNC. CLASS. = RURAL  
MINOR COLLECTOR  
SUBREGIONAL TIER

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4741 = 0.249 MILE  
LENGTH STRUCTURE TIP PROJECT B-4741 = 0.054 MILE  
TOTAL LENGTH TIP PROJECT B-4741 = 0.303 MILE

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

2012 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
DECEMBER 18, 2013

**LETTING DATE:**  
DECEMBER 16, 2014

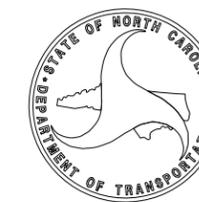
TONY HOUSER, PE  
PROJECT ENGINEER

JEFFREY L. TEAGUE, PE  
PROJECT DESIGN ENGINEER

**HYDRAULICS  
ENGINEER**

SIGNATURE:  
ROADWAY DESIGN  
ENGINEER

SIGNATURE:

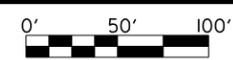


\$\$\$\$\$ SYSTEM \$\$\$\$\$\$  
\$\$\$\$\$ DGN \$\$\$\$\$\$  
\$\$\$\$\$ USERNAME \$\$\$\$\$\$

8/17/99  
2/19/2014 5:32:28 PM NCDOT On-Call Hydrologist -4741\Hydro\Permits\Environmental\Drawings\B4741\_hyd\_psh\_02.dgn  
1/26/2016 10:06:53 AM NCDOT On-Call Hydrologist -4741\Hydro\Permits\Environmental\Drawings\B4741\_hyd\_psh\_02.dgn

# WETLAND/SURFACE WATER PERMIT DWG.

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



PROJECT REFERENCE NO. B-4741	SHEET NO. 2
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

**PERMIT DRAWING SHEET 2 OF 7**

**BEGIN TIP PROJECT B-4741  
-L- POT STA.12+00.00**



**MATCH LINE -L- STA.21+00**

REVISIONS





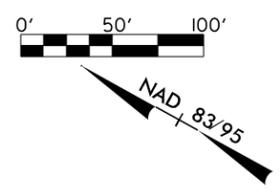
2/18/2014 5:32:48 PM C:\p\projects\011096 - NCDOT On-Call Hydro\B-4741\Hydro\PERMITS.Environmental\Drawings\B4741\_hyd\_psh\_05.dgn

REVISIONS

### WETLAND/SURFACE WATER PERMIT DWG.

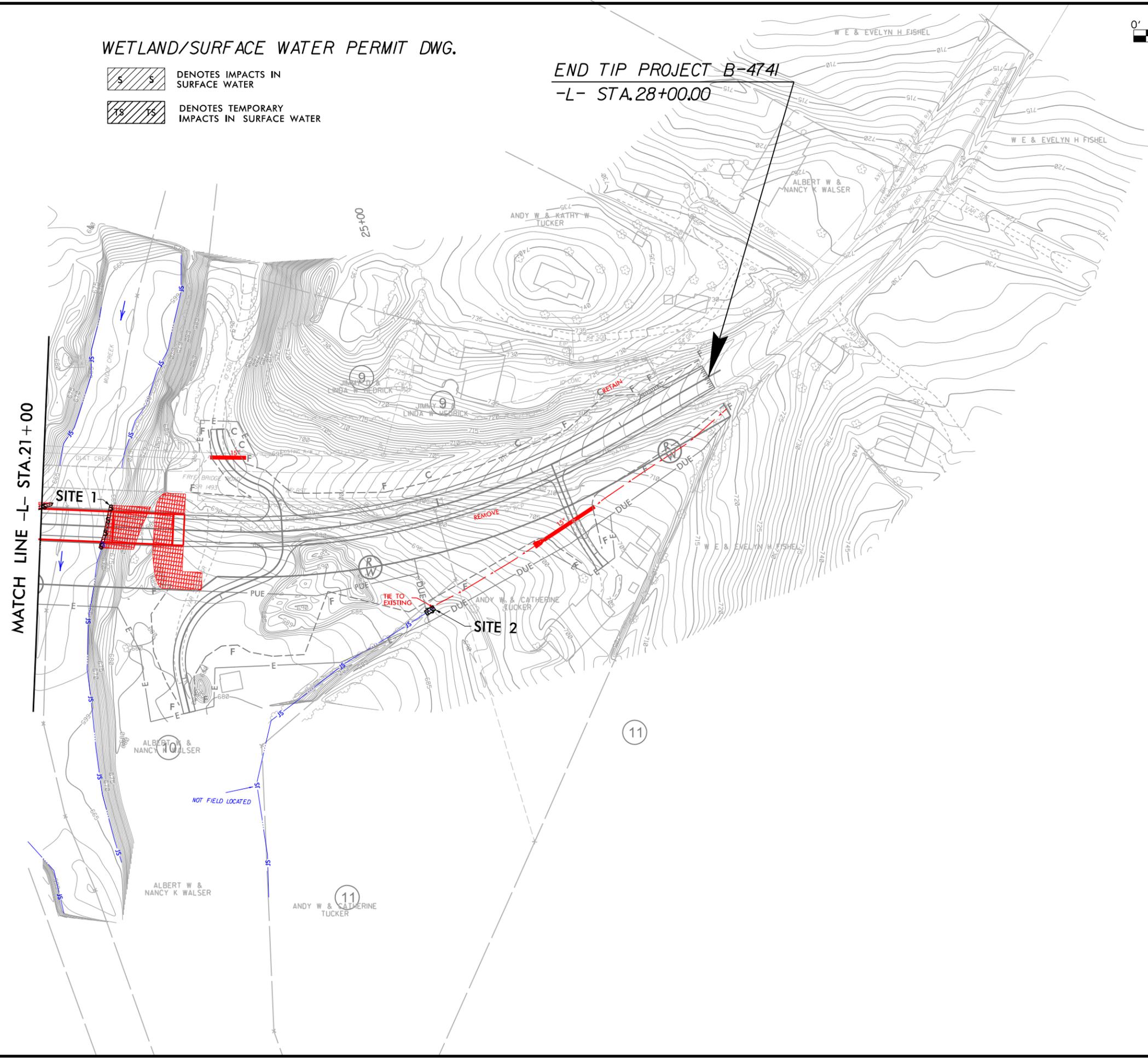
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

END TIP PROJECT B-4741  
-L- STA.28+00.00



PROJECT REFERENCE NO. <b>B-4741</b>	SHEET NO. <b>5</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

**PERMIT DRAWING SHEET 5 OF 7**



5/28/99

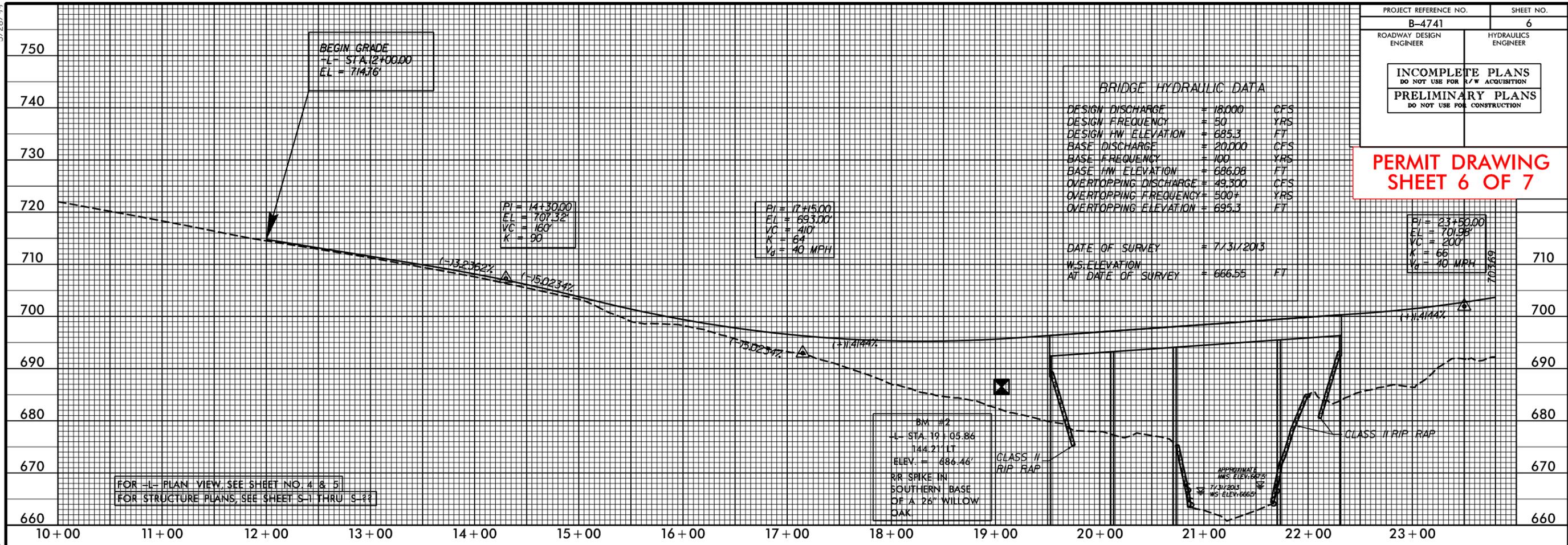
PROJECT REFERENCE NO. <b>B-4741</b>	SHEET NO. <b>6</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING  
SHEET 6 OF 7

**BRIDGE HYDRAULIC DATA**

DESIGN DISCHARGE	= 18,000	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 685.3	FT
BASE DISCHARGE	= 20,000	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 686.06	FT
OVERTOPPING DISCHARGE	= 49,300	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 695.3	FT

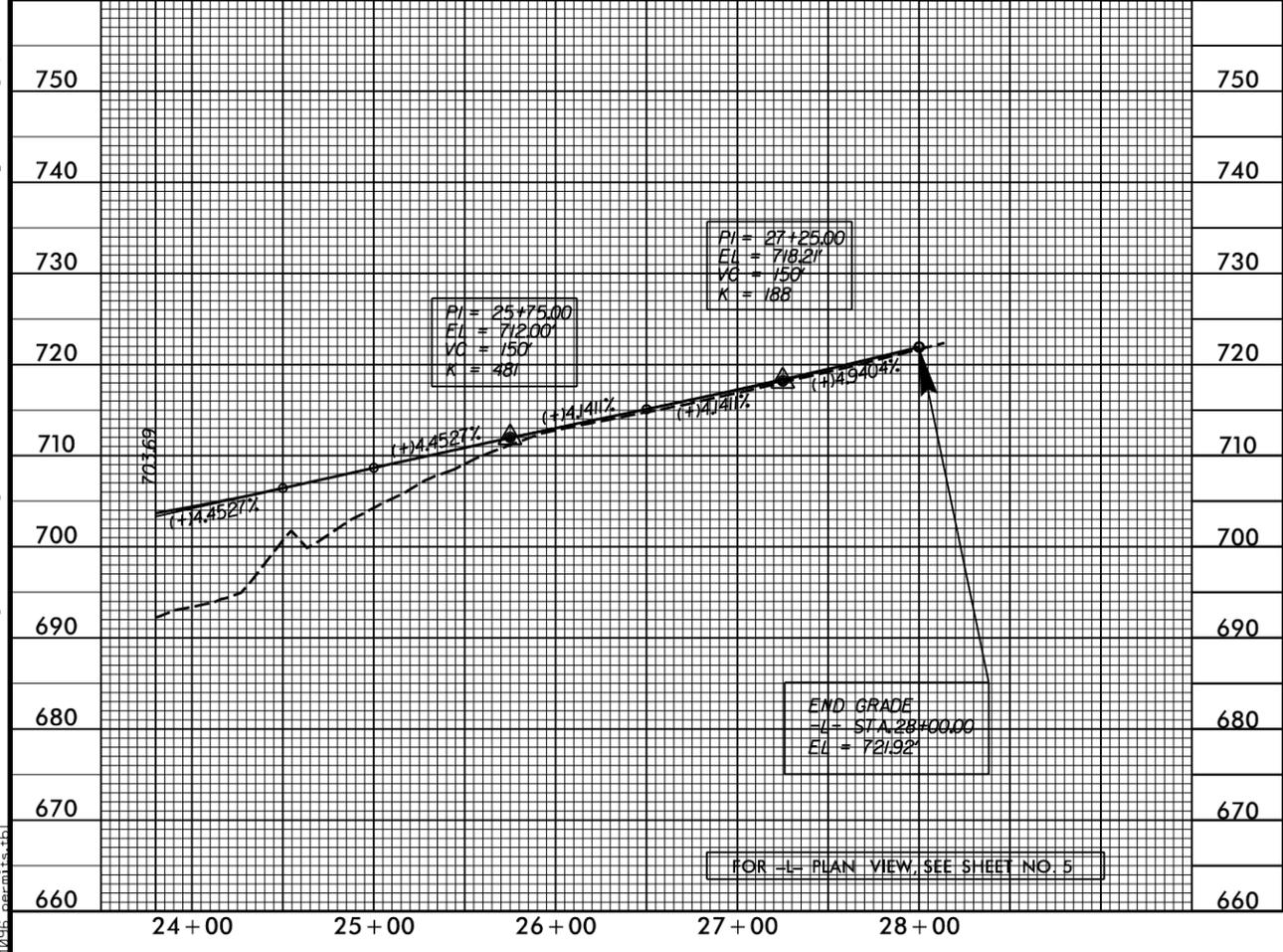
DATE OF SURVEY = 7/31/2013  
 W.S. ELEVATION AT DATE OF SURVEY = 666.55 FT



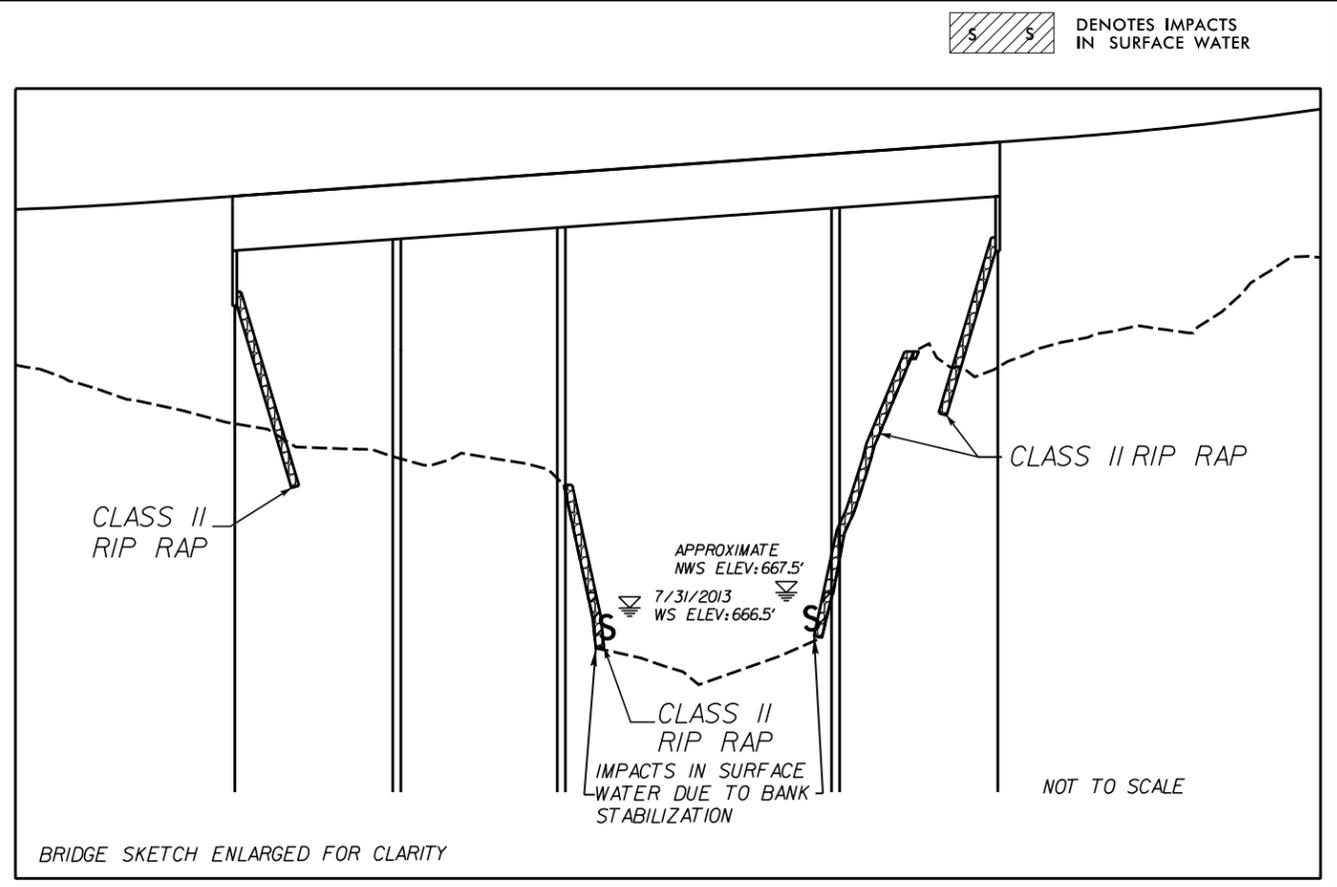
FOR -L- PLAN VIEW, SEE SHEET NO. 4 & 5  
 FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-22

BM #2  
 +L STA. 19+05.86  
 144.21' LT  
 ELEV. = 686.46'  
 RR SPIKE IN  
 SOUTHERN BASE  
 OF A 26" WILLOW  
 OAK

DENOTES IMPACTS IN SURFACE WATER



FOR -L- PLAN VIEW, SEE SHEET NO. 5



C:\Users\pm\Documents\Projects\B-4741\Hydro\PERMITS\Environmental\Drawings\B4741\_hyd\_psh\_06.dgn  
 5/28/2014 3:56:06 PM  
 NCDOT On-Call Hydro\B-4741\Hydro\PERMITS\Environmental\Drawings\B4741\_hyd\_psh\_06.dgn

**WETLAND PERMIT IMPACT SUMMARY**

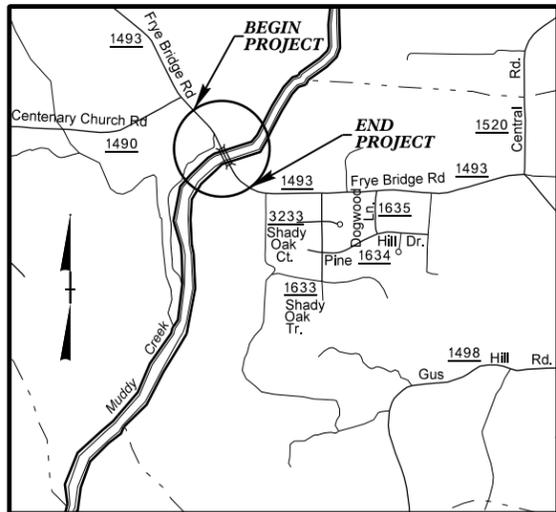
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	L 20+76 - L 21+70	Bank Stabilization						0.01		60		
2	L 24+62 - L 24+72	Grading						<.01			10	
<b>TOTALS:</b>								0.01		60	10	

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
  
 DAVIDSON COUNTY  
 WBS - 38514.1.1 (B-4741)

SHEET 7 of 7 2/20/2014

09/08/99

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



**VICINITY MAP**

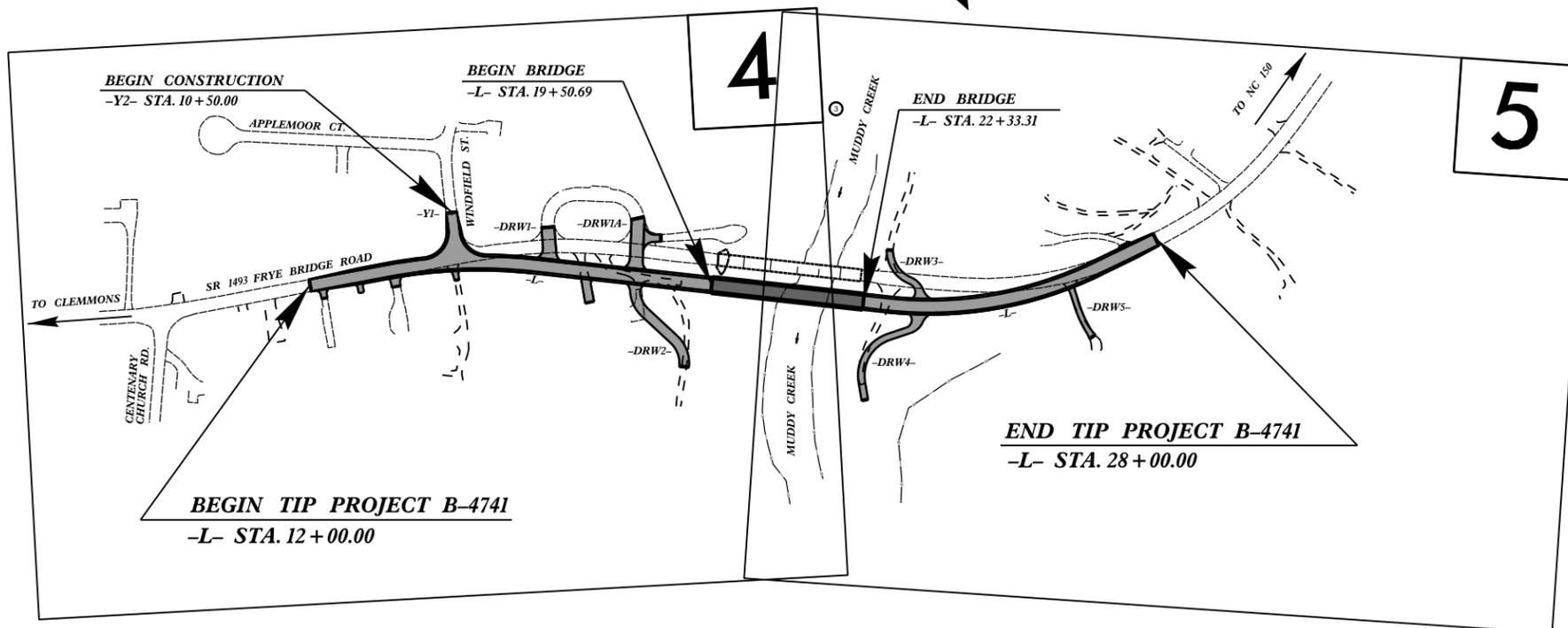
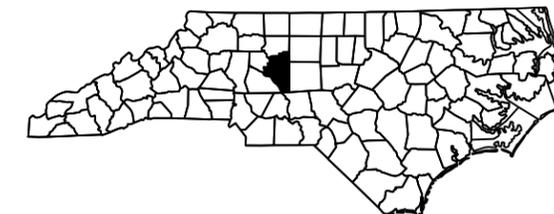
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**DAVIDSON COUNTY**

**LOCATION: BRIDGE NO. 38 OVER MUDDY CREEK  
ON SR 1493 (FRYE BRIDGE ROAD)**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4741	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38514.1.1	BRZ-1493(2)	P.E.	
38514.2.FD1	BRZ-1493(2)	RW & UTIL.	



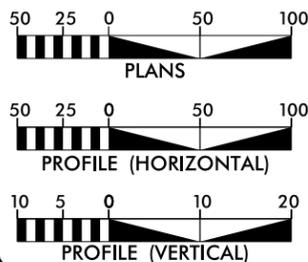
**TIP PROJECT: B-4741**

**CONTRACT:**

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

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

**GRAPHIC SCALES**



**DESIGN DATA**

ADT 2015 = 3,743 VPD  
ADT 2035 = 5,600 VPD  
DHV = 13 %  
D = 60 %  
\* T = 3 %  
V = 50 MPH  
\*(TTST 1% + DUAL 2%)  
FUNC. CLASS. = RURAL  
MINOR COLLECTOR  
SUBREGIONAL TIER

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4741 = 0.249 MILE  
LENGTH STRUCTURE TIP PROJECT B-4741 = 0.054 MILE  
TOTAL LENGTH TIP PROJECT B-4741 = 0.303 MILE

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

2012 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
DECEMBER 18, 2013

**LETTING DATE:**  
DECEMBER 16, 2014

**TONY HOUSER, PE**  
PROJECT ENGINEER

**JEFFREY L. TEAGUE, PE**  
PROJECT DESIGN ENGINEER

**HYDRAULICS  
ENGINEER**

SIGNATURE:  
**ROADWAY DESIGN  
ENGINEER**

SIGNATURE:



10-FEB-2014 11:12  
R:\Roadway\Projects\N4741\_Rdy\_t.sh.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$

12/05/11

Note: Not to Scale

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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. B-4741  
SHEET NO. 1-B

# CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ IP
Property Corner	-----
Property Monument	□ EDM
Parcel/Sequence Number	①②③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	----- MLB
Proposed Wetland Boundary	----- MLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ?

## BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ ○ ○
Well	○ #
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□ +
Building	□
School	□ +
Church	□ +
Dam	-----

## HYDROLOGY:

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

## RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

## RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	----- RW
Proposed Right of Way Line with Iron Pin and Cap Marker	----- RW
Proposed Right of Way Line with Concrete or Granite RW Marker	----- RW
Proposed Control of Access Line with Concrete C/A Marker	----- C/A
Existing Control of Access	----- C/A
Proposed Control of Access	----- C/A
Existing Easement Line	----- E
Proposed Temporary Construction Easement	----- E
Proposed Temporary Drainage Easement	----- TDE
Proposed Permanent Drainage Easement	----- PDE
Proposed Permanent Drainage / Utility Easement	----- DUE
Proposed Permanent Utility Easement	----- PUE
Proposed Temporary Utility Easement	----- TUE
Proposed Aerial Utility Easement	----- AUE
Proposed Permanent Easement with Iron Pin and Cap Marker	----- ◆

## ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	----- C
Proposed Slope Stakes Fill	----- F
Proposed Curb Ramp	----- CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----
VEGETATION:	
Single Tree	☼
Single Shrub	☼
Hedge	-----
Woods Line	-----

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

## EXISTING STRUCTURES:

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

## UTILITIES:

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

## TELEPHONE:

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

## WATER:

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

## TV:

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

## GAS:

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

## SANITARY SEWER:

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

## MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□ S
Utility Unknown U/G Line	----- TUUL
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	□ UST
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

# SURVEY CONTROL SHEET B-4741

## FINAL

PROJECT REFERENCE NO. B-4741	SHEET NO. 1C
Location and Surveys	

BM#3  
 N=812388  
 E=1604975  
 ELEV=700.75'  
 ◆  
 ◆  
 BL-8  
 N=812331.548  
 E=1604952.123  
 ELEV=706.39'

BM#1  
 N=814281  
 E=1602856  
 ELEV=733.90'  
 ◆

BL-3  
 N=814256.917  
 E=1602870.222  
 ELEV=733.35'  
 ◆

BY1-9  
 N=813835.619  
 E=1602850.631  
 ELEV=717.74'  
 ◆

BL-4  
 N=813911.113  
 E=1603072.607  
 ELEV=723.04'  
 ◆

BY2-10  
 N=813654.590  
 E=1603633.527  
 ELEV=705.33'  
 ◆

B4741-2  
 N=813338.568  
 E=1603648.877  
 ELEV=694.16'  
 ◆

BM#2  
 N=813222  
 E=1603786  
 ELEV=686.46'  
 ◆

B4741-1  
 N=812862.012  
 E=1603839.929  
 ELEV=690.24'  
 ◆

BL-6  
 N=812486.819  
 E=1604133.475  
 ELEV=717.97'  
 ◆

BL-7  
 N=812365.743  
 E=1604430.626  
 ELEV=724.70'  
 ◆

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3	BL-3	814256.9170	1602870.2220	733.35	OUTSIDE PROJECT LIMITS	
4	BL-4	813911.1130	1603072.6070	723.04	OUTSIDE PROJECT LIMITS	
5	BL-5	813579.5760	1603465.8050	705.22	14+48.08	33.11 LT
2	B4741-2	813338.5678	1603648.8772	694.16	17+40.36	73.05 LT
1	B4741-1	812862.0120	1603839.9290	690.24	22+52.08	31.30 LT
6	BL-6	812486.8190	1604133.4750	717.97	27+39.21	18.37 RT
7	BL-7	812365.7430	1604430.6260	724.70	OUTSIDE PROJECT LIMITS	
8	BL-8	812331.5480	1604952.1230	706.39	OUTSIDE PROJECT LIMITS	

BY1 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
4	BL-4	813911.1130	1603072.6070	723.04	OUTSIDE PROJECT LIMITS	
9	BY1-9	813835.6190	1602850.6310	717.74	OUTSIDE PROJECT LIMITS	

BY2 POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
10	BY2-10	813654.5900	1603633.5270	705.33	OUTSIDE PROJECT LIMITS	
5	BL-5	813579.5760	1603465.8050	705.22	11+11.87	27.86 RT

\*\*\*\*\*  
 BM#1 ELEVATION = 733.90'  
 N 814281 E 1602856  
 L STATION 10+00.00  
 N 35°31'11.31" W DIST 481.91'  
 CHISELED X ON CONC DRIVEWAY OF SR 3757  
 FRYE BRIDGE RD. 8' SOUTH OF EP OF RD.  
 6.5' EAST OF WEST END OF 15" CONC  
 DRIVEWAY PIPE.  
 \*\*\*\*\*

\*\*\*\*\*  
 BM3 ELEVATION = 700.75'  
 N 812388 E 1604975  
 L STATION 28+14.00  
 S 84°25'3.66" E DIST 771.49'  
 RAILROAD SPIKE IN ROOT ON WEST SIDE OF  
 A 12" MAPLE +/- 15' NORTH OF EP OF FRYE  
 BRIDGE RD.  
 \*\*\*\*\*

\*\*\*\*\*  
 BM#2 ELEVATION = 686.46'  
 N 813222 E 1603786  
 L STATION 19+06.00 144' LEFT  
 RAILROAD SPIKE IN SOUTHERN BASE OF A  
 26" WILLOW OAK. +/- 60' WEST OF PUMP  
 STATION. +/- 90' NORTH OF EP OF FRYE  
 BRIDGE RD.  
 \*\*\*\*\*

### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B-4741-1" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF  
 NORTHING: 812862.012(ft) EASTING: 1603839.929(ft)  
 ELEVATION: 690.24(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999245  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-4741-1" TO -L- STATION 10+00.00 IS  
 N 34°27'19" W 1245.08  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

### NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)  
 THE FILES TO BE FOUND ARE AS FOLLOWS:  
 B4741\_LS\_CONTROL.TXT  
 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

▲ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.

NOTE: DRAWING NOT TO SCALE

6/2/99  
 10-FEB-2014 11:2  
 P:\Location\Surveys\B4741.LS.1c.dgn

6/2/09

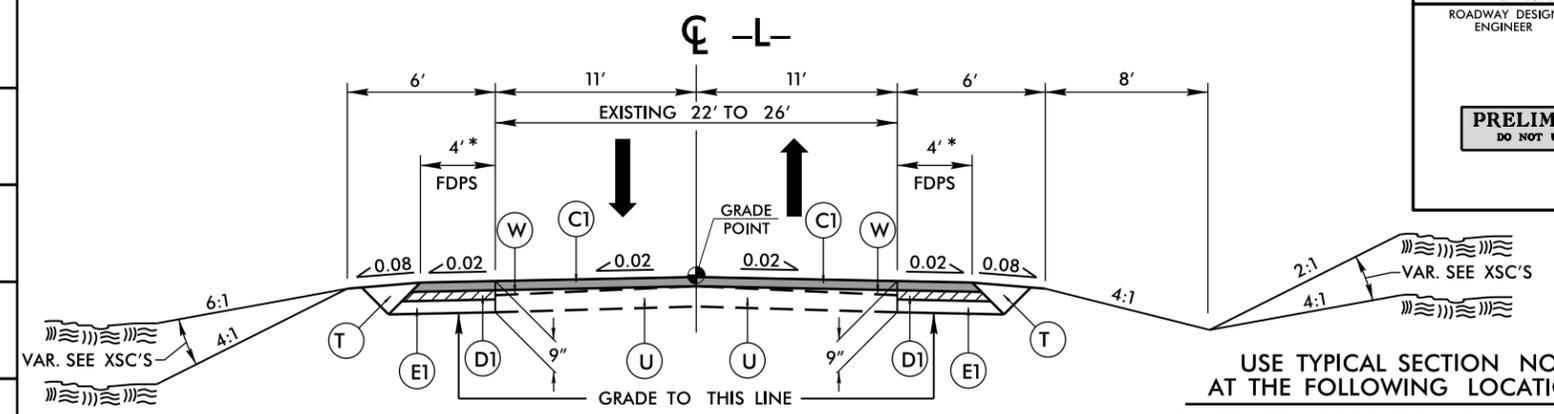
# PAVEMENT SCHEDULE

## FINAL PAVEMENT DESIGN

C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" 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 5½" IN DEPTH.
J1	PROP. 6" AGGREGATE BASE COURSE.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAILS SHOWING METHOD OF WEDGING.)

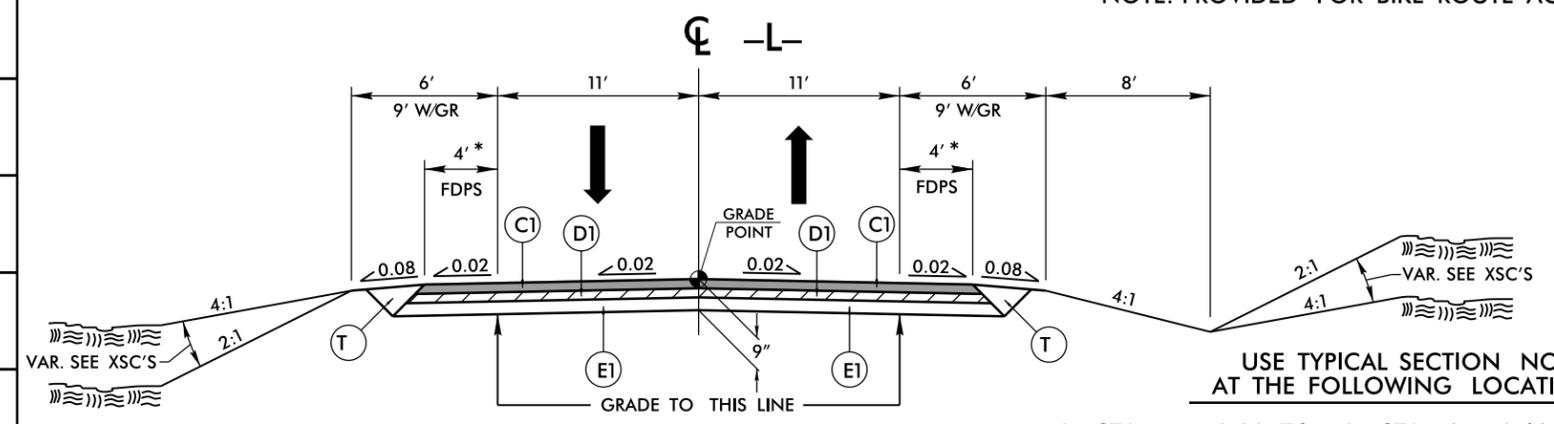
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO. <b>B-4741</b>	SHEET NO. <b>2</b>
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



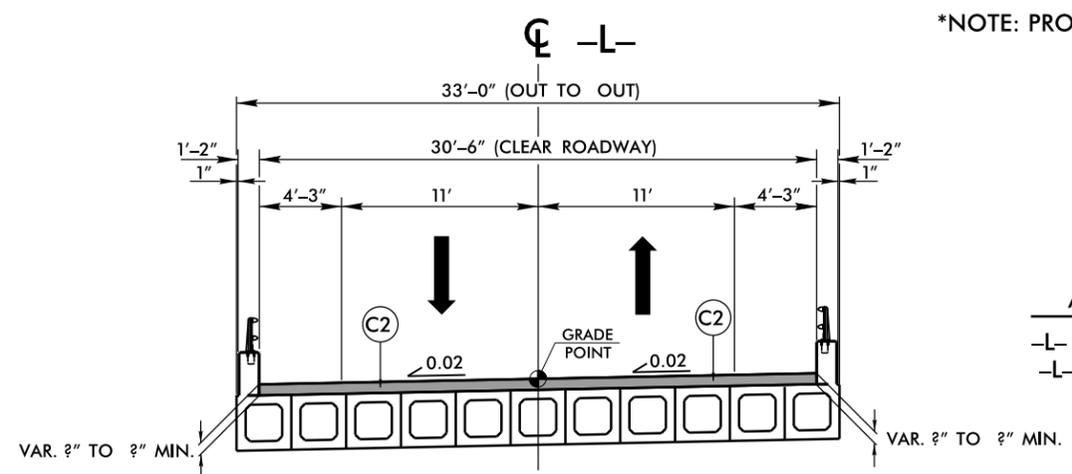
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AT THE FOLLOWING LOCATIONS:  
 -L- STA. 12+00.00 TO -L- STA. 15+50.00  
 -L- STA. 25+50.00 TO -L- STA. 28+00.00  
 \*NOTE: PROVIDED FOR BIKE ROUTE ACCOMMODATION.



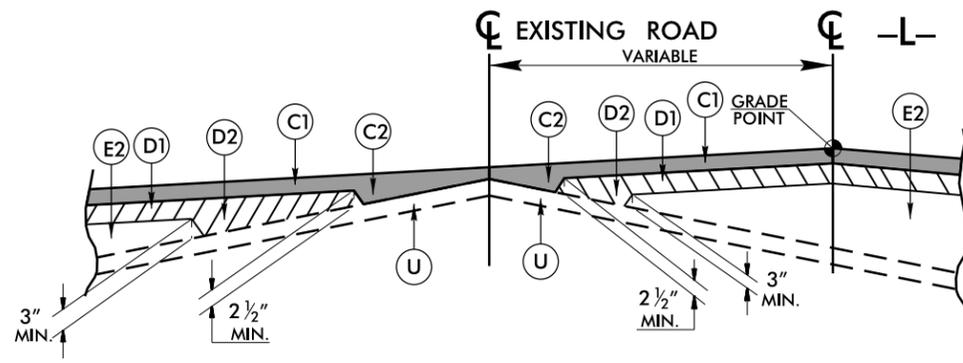
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AT THE FOLLOWING LOCATIONS:  
 -L- STA. 15+50.00 TO -L- STA. 19+50.69 (BEGIN BRIDGE)  
 -L- STA. 22+33.31 (END BRIDGE) TO -L- STA. 25+50.00  
 \*NOTE: PROVIDED FOR BIKE ROUTE ACCOMMODATION.

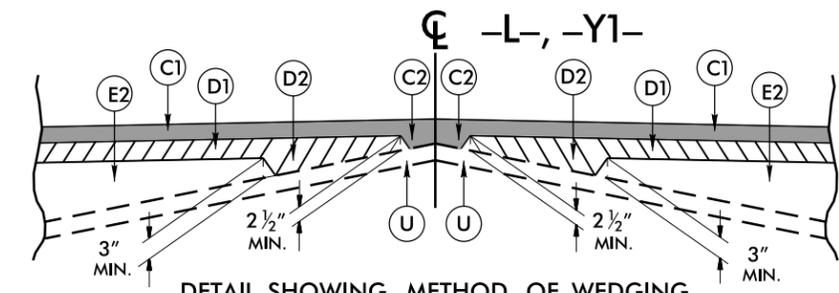


TYPICAL SECTION NO. 3  
BOX BEAM BRIDGE (SEE STRUCTURE PLANS)

USE TYPICAL SECTION NO. 3 AT THE FOLLOWING LOCATION:  
 -L- STA. 19+50.69 (BEGIN BRIDGE) TO  
 -L- STA. 22+33.31 (END BRIDGE)



DETAIL SHOWING METHOD OF WEDGING  
USE IN CONJUNCTION WITH TYPICAL SECTION NO. 1



DETAIL SHOWING METHOD OF WEDGING  
USE IN CONJUNCTION WITH TYPICAL SECTION NO. 1 AND NO. 4

NOTE: INCIDENTAL MILLING AS DIRECTED BY THE ENGINEER TO TIE PROPOSED FINAL SURFACE TO EXISTING PAVEMENT.

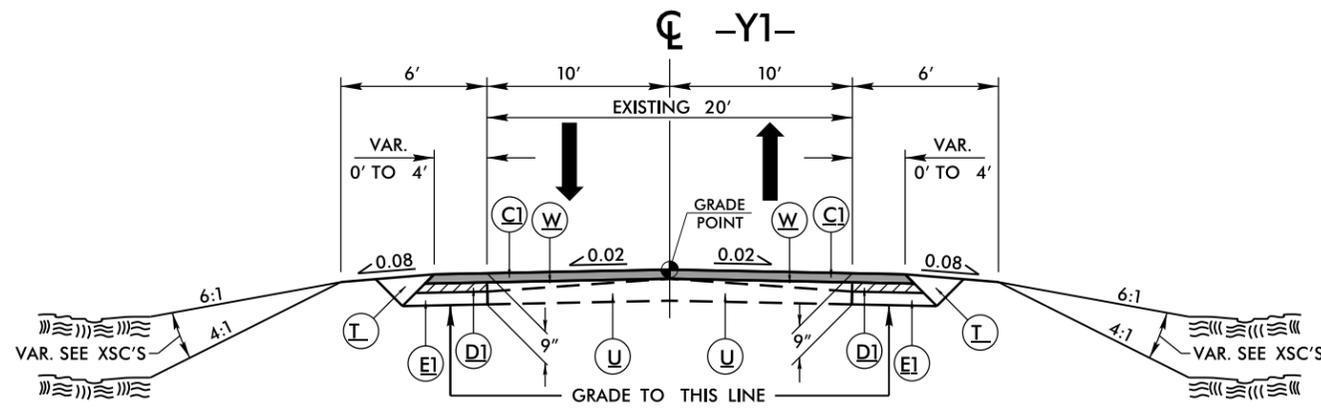
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R:\Roadway\Projects\B4741.rdy-tyr.dgn  
3:31 PM

### PAVEMENT SCHEDULE FINAL PAVEMENT DESIGN

C1	2½" SF9.5A
D1	2½" I19.0B
E1	4" B25.0B
J1	6" ABC
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

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

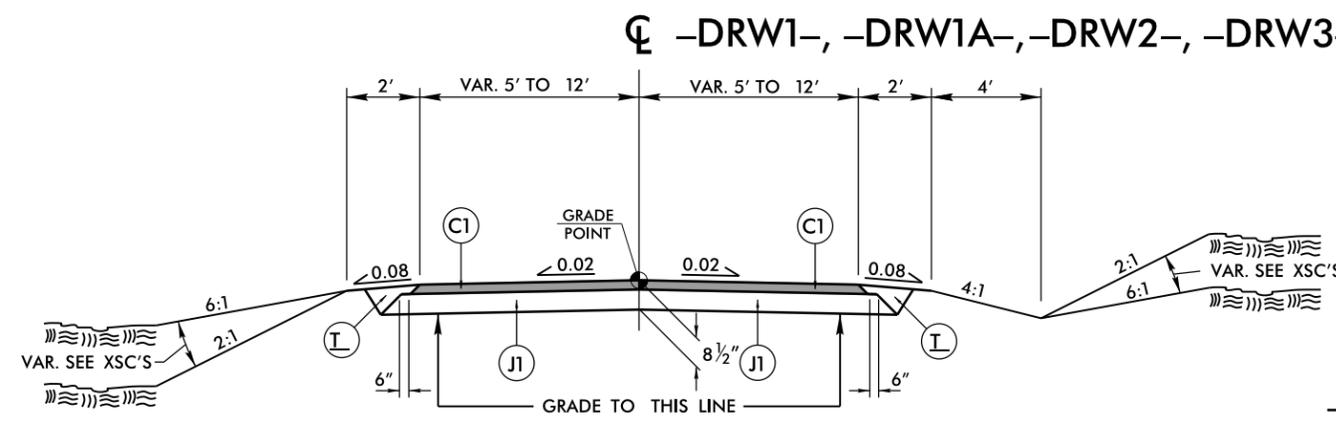
PROJECT REFERENCE NO. <b>B-4741</b>	SHEET NO. <b>2-A</b>
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



TYPICAL SECTION NO. 4

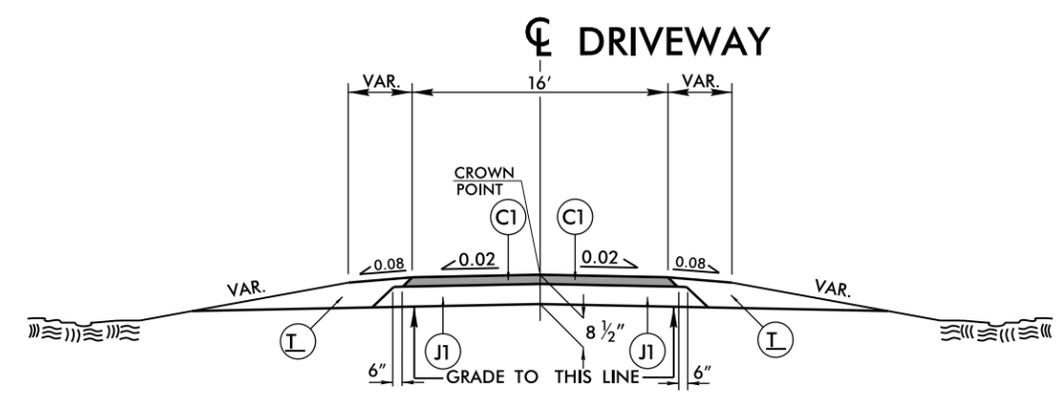
NOTE: INCIDENTAL MILLING AS DIRECTED BY THE ENGINEER TO TIE PROPOSED FINAL SURFACE TO EXISTING PAVEMENT.

USE TYPICAL SECTION NO. 4  
AT THE FOLLOWING LOCATION:  
-Y1- STA. 10+50.00 TO -Y1- STA. 11+33.79



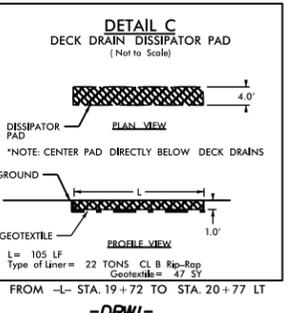
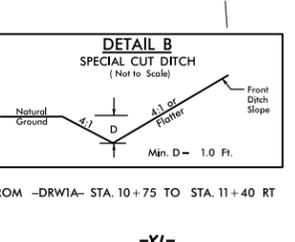
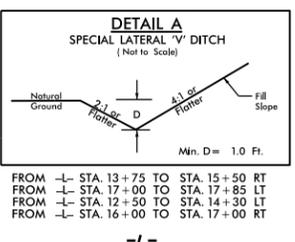
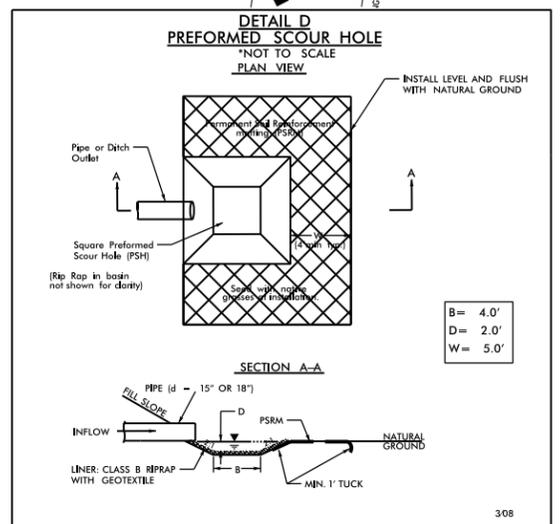
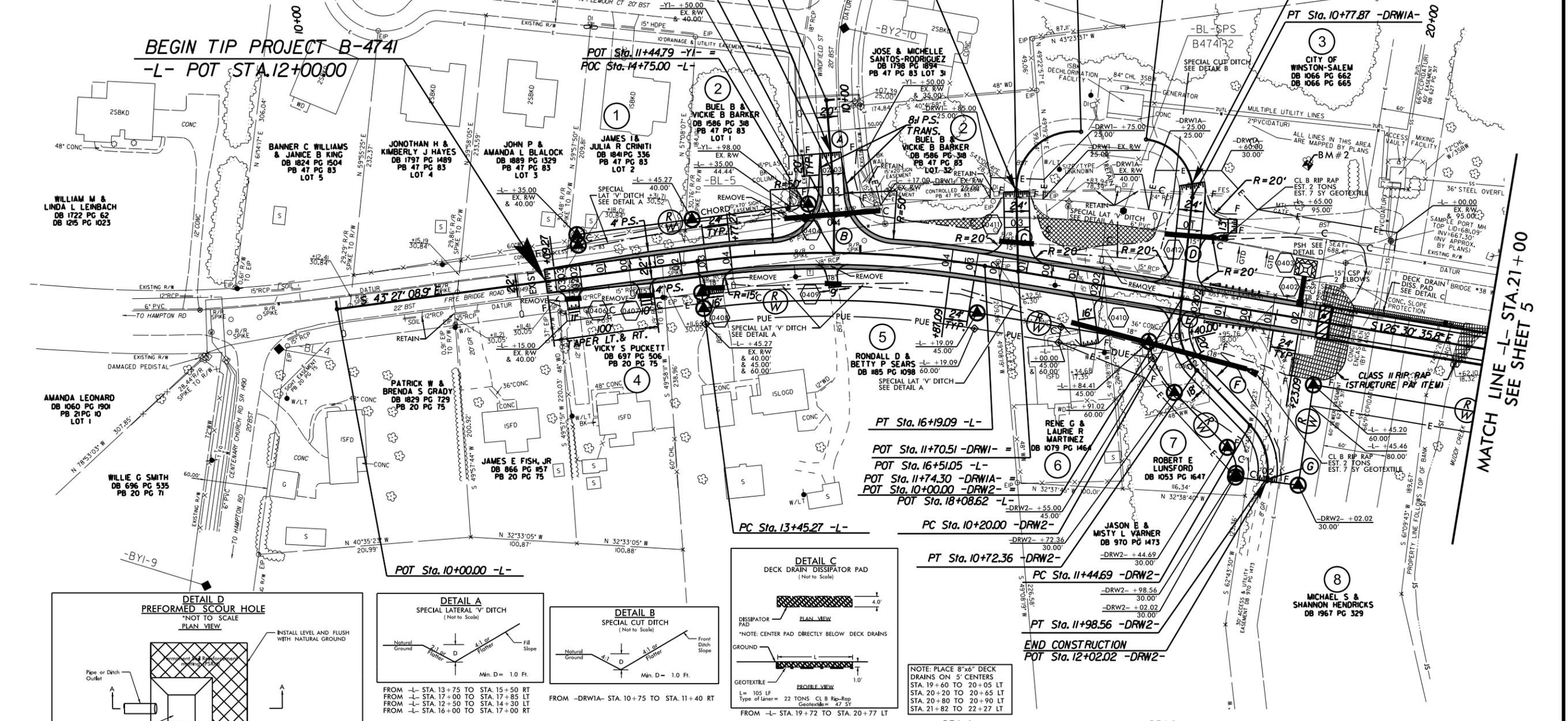
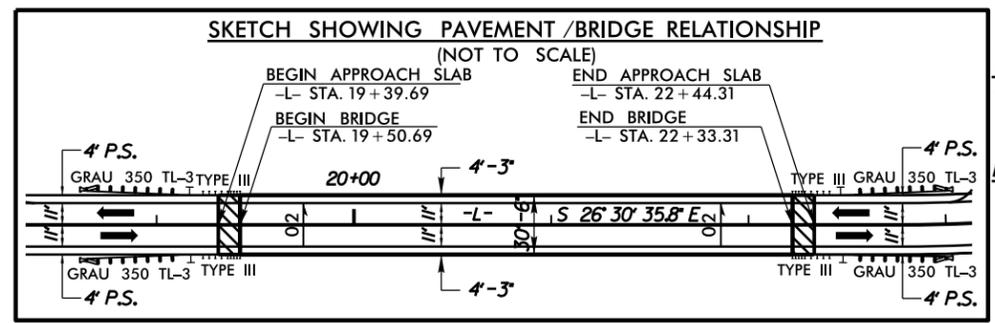
TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5  
AT THE FOLLOWING LOCATIONS:  
-DRW1- STA. 10+95.00 TO -DRW1- STA. 11+55.25  
-DRW1A- STA. 10+65.00 TO -DRW1A- STA. 11+59.28  
-DRW2- STA. 10+15.03 TO -DRW2- STA. 12+02.02  
-DRW3- STA. 10+00.00 TO -DRW3- STA. 11+15.14  
-DRW4- STA. 10+15.00 TO -DRW4- STA. 12+34.21  
-DRW5- STA. 10+15.02 TO -DRW5- STA. 11+15.00



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6  
AT THE FOLLOWING LOCATION:  
-L- STA. 17+26.13 RT. (DRIVEWAY TO RENE MARTINEZ'S PROPERTY, PARCEL 6)  
NO HORIZONTAL OR VERTICAL ALIGNMENT PROVIDED FOR DRIVEWAY (SEE X-SECTIONS).



PI Sta 14+83.18  
 $\Delta = 16' 56'' 33.3''$  (RT)  
 $D = 6' 11'' 14.8''$   
 $L = 273.82'$   
 $T = 137.92'$   
 $R = 926.00'$   
 $SE = 0.04$   
 $RO = 94'$

PI Sta 10+91.91  
 $\Delta = 5' 12'' 01.5''$  (RT)  
 $D = 10' 44'' 58.8''$   
 $L = 48.38'$   
 $T = 24.21'$   
 $R = 533.00'$   
 $SE = \text{SEE PLANS}$   
 $RO = \text{SEE PLANS}$

PI Sta 10+63.23  
 $\Delta = 9' 57'' 59.0''$  (LT)  
 $D = 10' 41'' 26.9''$   
 $L = 94.04'$   
 $T = 63.23'$   
 $R = 55.00'$   
 $\textcircled{C} S 52' 49'' 57.0'' W$

PI Sta 10+49.33  
 $\Delta = 8' 13'' 46.2''$  (RT)  
 $D = 11' 35'' 29.6''$   
 $L = 77.87'$   
 $T = 49.33'$   
 $R = 50.00'$   
 $\textcircled{D} S 60' 01'' 42.3'' W$

PI Sta 10+47.98  
 $\Delta = 50' 00'' 00.0''$  (LT)  
 $D = 95' 29'' 34.7''$   
 $L = 52.36'$   
 $T = 27.98'$   
 $R = 60.00'$   
 $\textcircled{E} S 60' 01'' 42.3'' W$

PI Sta 11+73.59  
 $\Delta = 5' 26'' 10.8''$  (RT)  
 $D = 95' 29'' 34.7''$   
 $L = 53.86'$   
 $T = 28.90'$   
 $R = 60.00'$   
 $\textcircled{F} S 10' 01'' 42.3'' W$   
 $\textcircled{G} S 61' 27'' 53.1'' W$

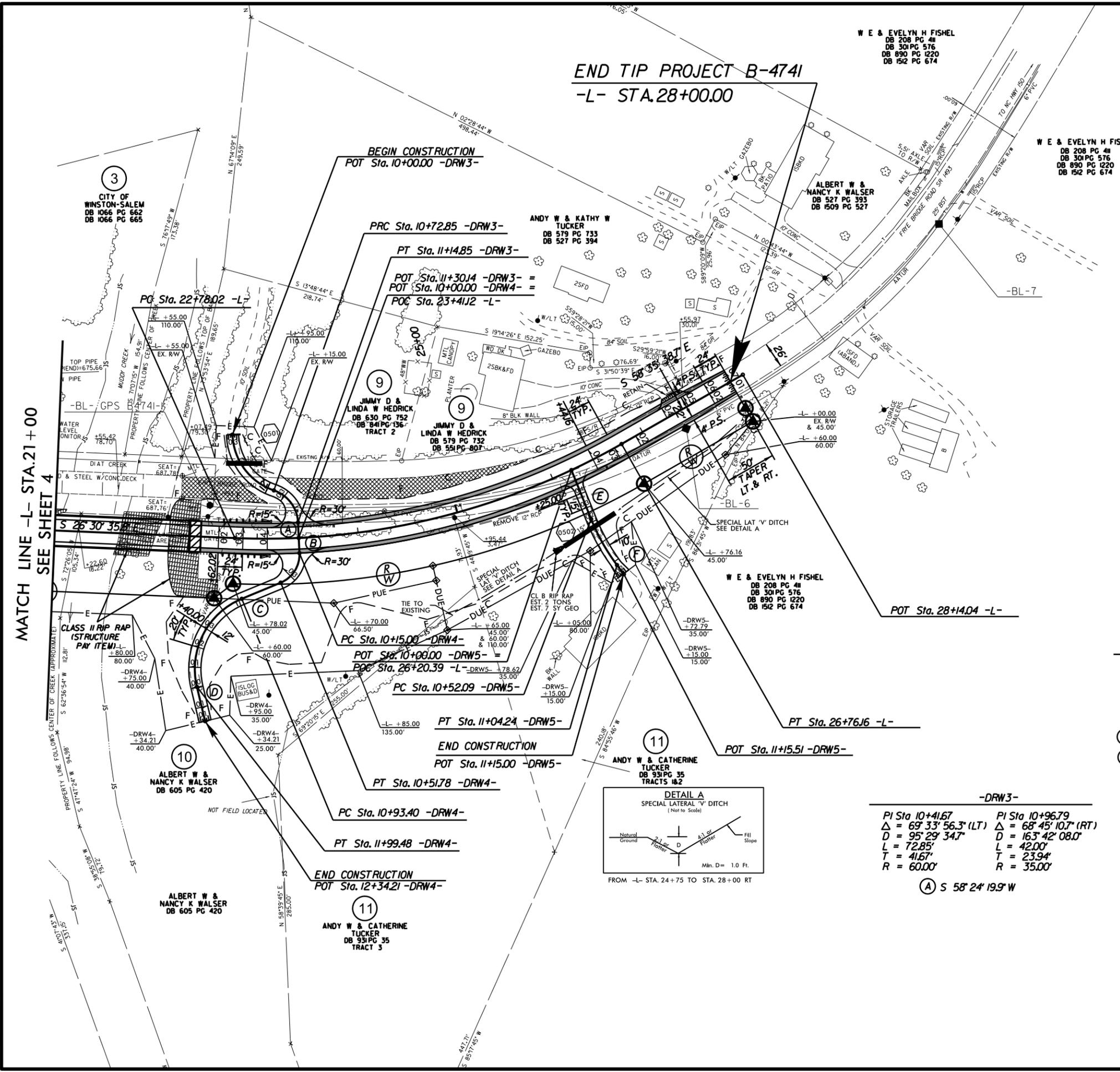
	PAVED SHOULDER
	BRIDGE APPROACH SLAB
	PAVEMENT REMOVAL
FOR -L-, -YI-, & -DRWI- PROFILE, SEE SHEET NO. 6	
FOR -DRWIA- & -DRW2- PROFILE, SEE SHEET NO. 7	
FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-??	
DRIVEWAY RADII ARE 10' UNLESS NOTED OTHERWISE	

R/W REVISION: TEMPORARY CONSTRUCTION EASEMENT (TCE) HAS BEEN ADDED TO PARCEL B. CEH 1/22/14.

10-FEB-2014 10:06 R:\Roadway\PC\B4741.RD\PSH-4.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-4741	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b>	
DO NOT USE FOR CONSTRUCTION	

**END TIP PROJECT B-4741**  
-L- STA.28+00.00

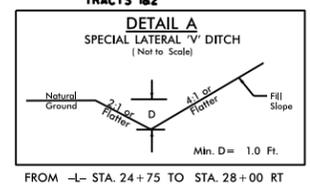


MATCH LINE -L- STA.21+00  
SEE SHEET 4

R/W REVISION : ADDITIONAL TEMPORARY CONSTRUCTION EASEMENT (TCE) HAS BEEN ADDED TO PARCEL 10. CEH 1/22/14.

<p><b>-DRW5-</b></p> <p>PI Sta 10+78.31 Δ = 14° 56' 22.5" (LT) D = 28° 38' 52.4" L = 52.15' T = 26.22' R = 200.00'</p> <p>Ⓔ S 39° 09' 13.1" W Ⓕ S 24° 12' 50.6" W</p>	<p><b>-L-</b></p> <p>PI Sta 24+82.46 Δ = 32° 05' 02.9" (LT) D = 8° 03' 30.5" L = 398.14' T = 204.44' R = 711.00' SE = 0.04 RO = SEE PLANS</p>
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<p><b>-DRW3-</b></p> <p>PI Sta 10+41.67 Δ = 69° 33' 56.3" (LT) D = 95° 29' 34.7" L = 72.85' T = 41.67' R = 60.00'</p> <p>Ⓐ S 58° 24' 19.9" W</p>	<p><b>-DRW4-</b></p> <p>PI Sta 10+36.10 Δ = 70° 14' 42.0" (RT) D = 190° 59' 09.4" L = 36.78' T = 21.0" R = 30.00'</p> <p>Ⓑ S 58° 24' 19.9" W Ⓒ N 51° 20' 58.1" W Ⓓ S 47° 36' 35.6" W</p>	<p><b>-DRW4-</b></p> <p>PI Sta 10+96.79 Δ = 68° 45' 10.7" (RT) D = 163° 42' 08.0" L = 42.00' T = 23.94' R = 35.00'</p> <p>Ⓐ S 58° 24' 19.9" W Ⓑ S 58° 24' 19.9" W Ⓒ N 51° 20' 58.1" W Ⓓ S 47° 36' 35.6" W</p>
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	PAVED SHOULDER
	BRIDGE APPROACH SLAB
	PAVEMENT REMOVAL
FOR -DRW3-, -DRW4-, -DRW5- PROFILE, SEE SHEET NO. 7	
FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-??	
DRIVEWAY RADII ARE 10' UNLESS NOTED OTHERWISE	
FOR BRIDGE SKETCH, SEE SHEET 4	

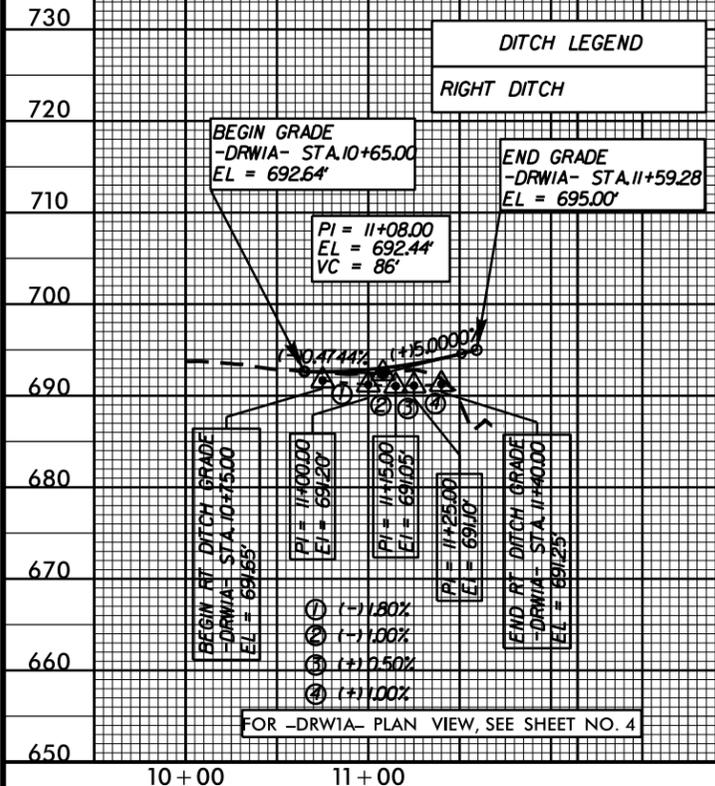
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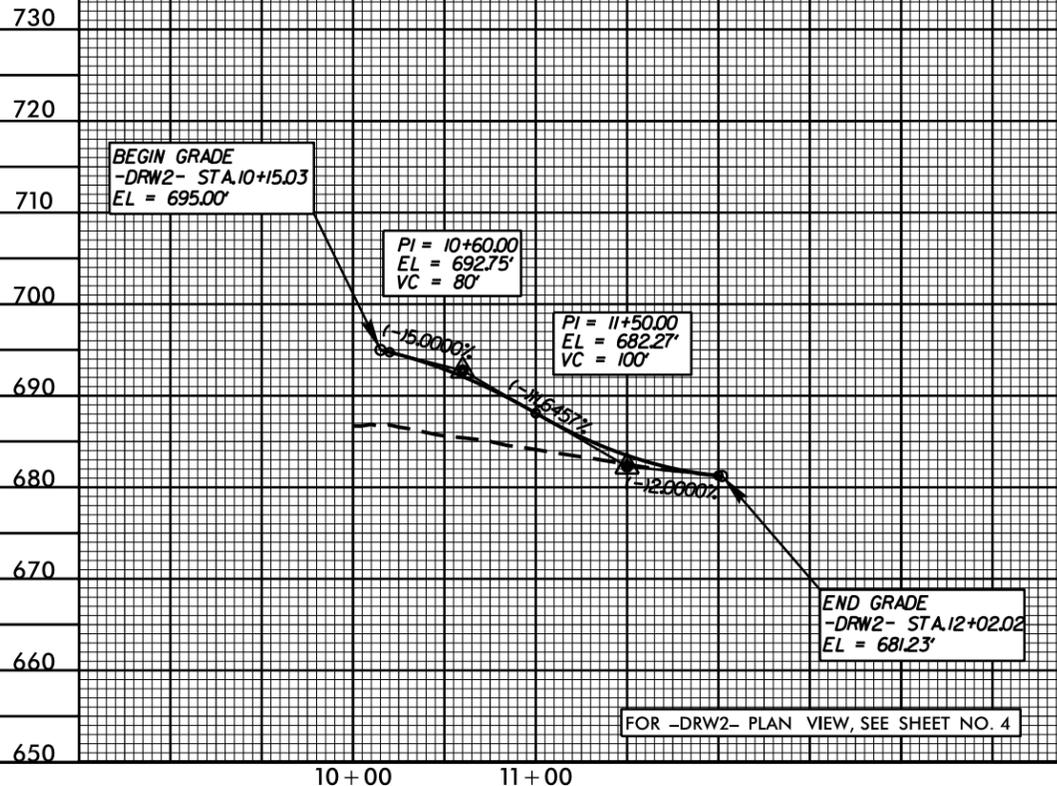
5/28/99

PROJECT REFERENCE NO. B-4741	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

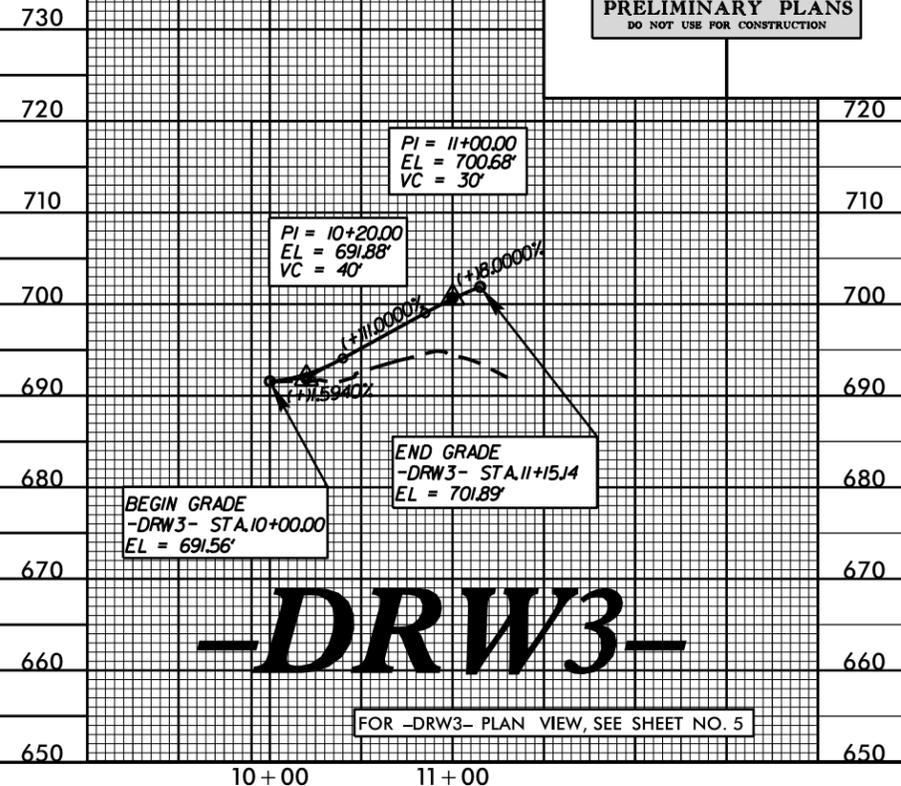
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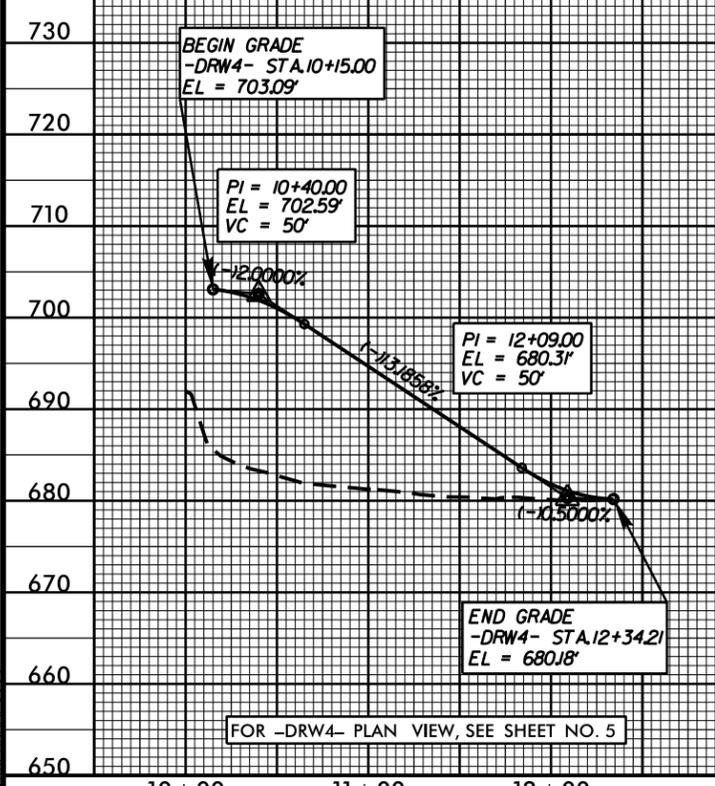
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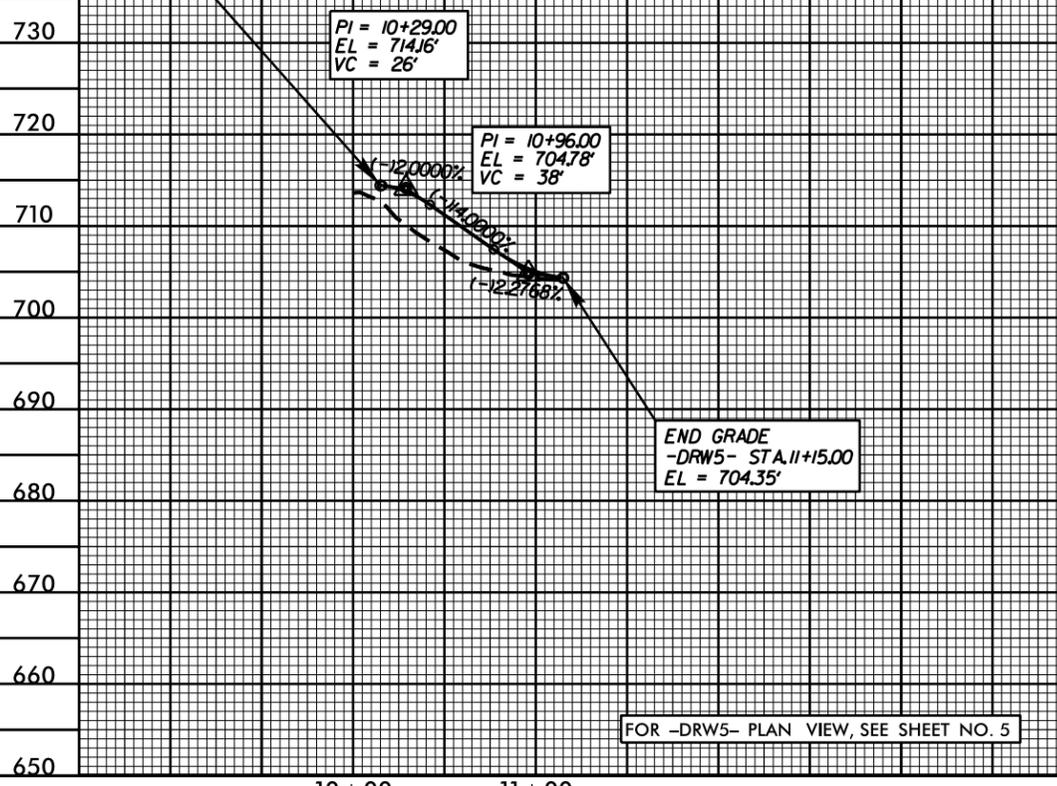
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# -DRW4-



# -DRW5-



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