



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

EUGENE A. CONTI, JR.  
SECRETARY

April 13, 2012

U. S. Army Corps of Engineers  
Regulatory Field Office  
151 Patton Avenue, Room 208  
Asheville, NC 28805

ATTN: Ms. Liz Hair  
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 13, 23, 33 and 401 Water Quality Certification** for the proposed replacement of Bridge No. 163 over Reedy Creek on SR 1138 (Hickory Ridge Road) in Cabarrus County, Federal Aid Project No. BRZ-1138(15); Division 10; TIP No. B-4719; WBS 38493.1.1 Debit \$240.00

Dear Madam:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 163 over Reedy Creek on SR 1138 with a three-span bridge. There will be 135 feet of permanent surface water impacts (55 feet of which are due to bank stabilization) and 60 feet (0.02 ac) of temporary surface water impacts due to the use of a causeway.

Please see enclosed copies of the Pre-Construction Notification (PCN), Stormwater Management Plan, Permit Drawings and Design Plans. The Categorical Exclusion (CE) was completed in May 2010 and distributed shortly thereafter. Additional copies are available upon request.

This project calls for a letting date of December 18, 2012 and a review date of October 30, 2012; however, the let date may advance as additional funding becomes available.

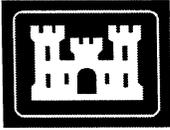
A copy of this permit application and its distribution list will be posted on the NCDOT Website at: <http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html>. If you have any questions or need additional information, please contact Jennifer Harrod at (919) 707-6124 or [jwharrod@ncdot.gov](mailto:jwharrod@ncdot.gov).

Sincerely,

Handwritten signature in black ink, appearing to read "E. L. Lusk".

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

cc:  
NCDOT Permit Application Standard Distribution List



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

## Pre-Construction Notification (PCN) Form

### A. Applicant Information

#### 1. Processing

|   |   |  |
|---|---|--|
| 1a. Type(s) of approval sought from the Corps:  | <input checked="" type="checkbox"/> Section 404 Permit  | <input type="checkbox"/> Section 10 Permit   |
| 1b. Specify Nationwide Permit (NWP) number: 13 23 33 or General Permit (GP) number:   |   |  |
| 1c. Has the NWP or GP number been verified by the Corps?  | <input type="checkbox"/> Yes  | <input checked="" type="checkbox"/> No   |
| 1d. Type(s) of approval sought from the DWQ (check all that apply):   |   |  |
| <input checked="" type="checkbox"/> 401 Water Quality Certification – Regular <span style="margin-left: 100px;"><input type="checkbox"/> Non-404 Jurisdictional General Permit</span><br><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:<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | For the record only for Corps Permit:<br><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 No. 163 over the Reedy Creek on SR 1138 (Hickory Ridge Road). |
| 2b. County:                                  | Cabarrus  |
| 2c. Nearest municipality / town:             | Harrisburg  |
| 2d. Subdivision name:                        | <i>not applicable</i>   |
| 2e. NCDOT only, T.I.P. or state project no.: | B-4719  |

#### 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. Res ponsible 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) 707-6124                              |
| 3g. Fax no.:                                    | (919) 212-5785                              |
| 3h. Email address:                              | jwharrod@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<br>(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<br>(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: 35.291975<br>(DD.DDDDDD) Longitude: - 81.624156<br>(-DD.DDDDDD)                            |
| 1c. Property size:  | 0.74 acre  |
| <b>2. Surface Waters</b>  |  |
| 2a. Name of nearest body of water (stream, river, etc.) to proposed project:  | Reedy 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:<br>Semi-urban and spaced residential development  |  |
| 3b. List the total estimated acreage of all existing wetlands on the property:<br>0   |  |
| 3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property:<br>222 ft.   |  |
| 3d. Explain the purpose of the proposed project:<br>To replace a structurally deficient and functionally obsolete bridge.   |  |
| 3e. Describe the overall project in detail, including the type of equipment to be used:<br>The project involves replacing a 76-foot double-span bridge with a 167-foot triple-span bridge at existing location. Traffic will be detoured offsite during construction. 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?<br>Comments: SAW-2008-0859 issued by Steve Lund July 28, 2008; Expiration Date: July 28, 2013; There is no documentation that DWQ provided comments for this JD. However e-mail correspondence with DWQ occurred on February 1, 2012 which is attached for reference. A copy of the USACE determination is also attached. | <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 checked="" type="checkbox"/> Preliminary <input type="checkbox"/> Final                       |
| 4c. If yes, who delineated the jurisdictional areas?<br>Name (if known): Jeremy Leamer  | Agency/Consultant Company: NCDOT<br>Other:   |
| 4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation.<br>SAW-2008-0859 was received by this office on August 6, 2008. E-mail correspondence by NCDWQ was received February 1, 2012. Both documents are attached.  |  |
| <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):  |                                  |                                      |   |  |  |                                       |
| <input type="checkbox"/> Wetlands <input checked="" type="checkbox"/> Streams - tributaries <input type="checkbox"/> Buffers<br><input type="checkbox"/> Open Waters <input type="checkbox"/> Pond Construction   |                                  |                                      |   |  |  |                                       |
| 2. Wetland Impacts  |                                  |                                      |   |  |  |                                       |
| If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.  |                                  |                                      |   |  |  |                                       |
| 2a.<br>Wetland impact<br>number –<br>Permanent (P) or<br>Temporary (T)  | 2b.<br>Type of impact            | 2c.<br>Type of wetland<br>(if known) | 2d.<br>Forested   | 2e.<br>Type of jurisdiction<br>(Corps - 404, 10<br>DWQ – non-404, other)       | 2f.<br>Area of impact<br>(acres)   |                                       |
| Site 1 <input type="checkbox"/> P <input type="checkbox"/> T  |                                  |                                      | <input type="checkbox"/> Yes<br><input type="checkbox"/> No             | <input type="checkbox"/> Corps<br><input type="checkbox"/> DWQ                 |  |                                       |
| Site 2 <input type="checkbox"/> P <input type="checkbox"/> T  |                                  |                                      | <input type="checkbox"/> Yes<br><input type="checkbox"/> No             | <input type="checkbox"/> Corps<br><input type="checkbox"/> DWQ                 |  |                                       |
| Site 3 <input type="checkbox"/> P <input type="checkbox"/> T  |                                  |                                      | <input type="checkbox"/> Yes<br><input type="checkbox"/> No             | <input type="checkbox"/> Corps<br><input type="checkbox"/> DWQ                 |  |                                       |
| Site 4 <input type="checkbox"/> P <input type="checkbox"/> T  |                                  |                                      | <input type="checkbox"/> Yes<br><input type="checkbox"/> No             | <input type="checkbox"/> Corps<br><input type="checkbox"/> DWQ                 |  |                                       |
| Site 5 <input type="checkbox"/> P <input type="checkbox"/> T  |                                  |                                      | <input type="checkbox"/> Yes<br><input type="checkbox"/> No             | <input type="checkbox"/> Corps<br><input type="checkbox"/> DWQ                 |  |                                       |
| Site 6 <input type="checkbox"/> P <input type="checkbox"/> T  |                                  |                                      | <input type="checkbox"/> Yes<br><input type="checkbox"/> No             | <input type="checkbox"/> Corps<br><input type="checkbox"/> DWQ                 |  |                                       |
| <b>2g. Total wetland impacts</b>  |                                  |                                      |   |  | <input checked="" type="checkbox"/> Permanent<br><input checked="" type="checkbox"/> Temporary |                                       |
| 2h. Comments:   |                                  |                                      |   |  |  |                                       |
| 3. Stream Impacts   |                                  |                                      |   |  |  |                                       |
| If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.  |                                  |                                      |   |  |  |                                       |
| 3a.<br>Stream impact<br>number -<br>Permanent (P) or<br>Temporary (T)   | 3b.<br>Type of impact            | 3c.<br>Stream name                   | 3d.<br>Perennial<br>(PER) or<br>intermittent<br>(INT)?                  | 3e.<br>Type of<br>jurisdiction<br>(Corps - 404, 10<br>DWQ – non-404,<br>other) | 3f.<br>Average<br>stream<br>width<br>(feet)  | 3g.<br>Impact length<br>(linear feet) |
| Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T   | Rip Rap<br>Bank<br>Stabilization | Reedy Creek                          | <input checked="" type="checkbox"/> PER<br><input type="checkbox"/> INT | <input checked="" type="checkbox"/> Corps<br><input type="checkbox"/> DWQ      | 8  | 35 ft                                 |
| Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T   | Rip Rap<br>Bank<br>Stabilization | Reedy Creek                          | <input checked="" type="checkbox"/> PER<br><input type="checkbox"/> INT | <input checked="" type="checkbox"/> Corps<br><input type="checkbox"/> DWQ      | 8  | 20 ft                                 |
| Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T   | Causeway                         | Reedy Creek                          | <input checked="" type="checkbox"/> PER<br><input type="checkbox"/> INT | <input checked="" type="checkbox"/> Corps<br><input type="checkbox"/> DWQ      | 8  | 0.02 ac                               |
| Site 2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T   | Stream<br>relocation             | UT-to Reedy<br>Creek                 | <input type="checkbox"/> PER<br><input checked="" type="checkbox"/> INT | <input type="checkbox"/> Corps<br><input checked="" type="checkbox"/> DWQ      | 3  | 80 ft                                 |
| <b>3h. Total stream and tributary impacts</b>   |                                  |                                      |   |  |  | 135 ft Perm<br>0.02 ac Temp           |
| 3i. Comments: Stream at site 2, UT to Reedy Creek, is considered an ephemeral channel by the USACE according to the JD issued on July 28, 2008. However, DWQ considers this stream to be intermittent via e-mail correspondence dated February 1, 2012. |                                  |                                      |   |  |  |                                       |

|   |  |                                |        |   |                              |                               |           |                       |
|---|--|--------------------------------|--------|---|------------------------------|-------------------------------|-----------|-----------------------|
| <b>4. Open Water Impacts</b>  |  |                                |        |   |                              |                               |           |                       |
| 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.<br>Open water impact number – Permanent (P) or Temporary (T)  | 4b.<br>Name of waterbody (if applicable) | 4c.<br>Type of impact          |        |   | 4d.<br>Waterbody type        | 4e.<br>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>   |  |                                |        |   |                              | X Permanent<br>X Temporary    |           |                       |
| 4g. Comments:   |  |                                |        |   |                              |                               |           |                       |
| <b>5. Pond or Lake Construction</b>   |  |                                |        |   |                              |                               |           |                       |
| If pond or lake construction proposed, then complete the chart below.   |  |                                |        |   |                              |                               |           |                       |
| 5a.<br>Pond ID number   | 5b.<br>Proposed use or purpose of pond   | 5c.<br>Wetland Impacts (acres) |        |   | 5d.<br>Stream Impacts (feet) |                               |           | 5e.<br>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.<br>Project is in which protected basin?                  |                          |                    | <input type="checkbox"/> Neuse<br><input type="checkbox"/> Catawba | <input type="checkbox"/> Tar-Pamlico<br><input type="checkbox"/> Randleman | <input type="checkbox"/> Other:    |
| 6b.<br>Buffer impact number – Permanent (P) or Temporary (T) | 6c.<br>Reason for impact | 6d.<br>Stream name | 6e.<br>Buffer mitigation required?                                 | 6f.<br>Zone 1 impact (square feet)   | 6g.<br>Zone 2 impact (square feet) |
| B1 <input type="checkbox"/> P <input type="checkbox"/> T     |                          |                    | <input type="checkbox"/> Yes<br><input type="checkbox"/> No        |  |                                    |
| B2 <input type="checkbox"/> P <input type="checkbox"/> T     |                          |                    | <input type="checkbox"/> Yes<br><input type="checkbox"/> No        |  |                                    |
| B3 <input type="checkbox"/> P <input type="checkbox"/> T     |                          |                    | <input type="checkbox"/> Yes<br><input type="checkbox"/> No        |  |                                    |
| <b>6h. Total buffer impacts</b>                              |                          |                    |  |  |                                    |
| 6i. Comments:  |                          |                    |  |  |                                    |

|   |  |          |
|---|--|----------|
| <b>D. Impact Justification and Mitigation</b>   |  |          |
| <b>1. Avoidance and Minimization</b>  |  |          |
| 1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.<br>The interior bent was placed at the stream bank rather than in the center of the channel. The proposed bridge is a triple-span structure that is 91 feet longer than the existing bridge; traffic will be maintained on an offsite detour during construction; 3:1 fill slopes where practicable. |  |          |
| 1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.<br>A temporary causeway will be utilized to construct the drilled piers at end bent No. 2 of the new structure; surficial bridge runoff will not be directed into the Reedy Creek or the UT via deck drains, stormwater will be managed via roadside ditches.                             |  |          |
| <b>2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State</b>  |  |          |
| 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<br>If no, explain: permanent impacts are due to the use of rip rap for bank stabilization and is not considered a loss of waters of the U.S. by the USACE. The relocated channel is intermittent according to NCDWQ but ephemeral to the USACE. Impacts to the intermittent stream does not require mitigation as impacts are less than 150 linear feet. |          |
| 2b. If yes, mitigation is required by (check all that apply):   | <input type="checkbox"/> DWQ <input type="checkbox"/> Corps  |          |
| 2c. If yes, which mitigation option will be used for this project?  | <input type="checkbox"/> Mitigation bank<br><input type="checkbox"/> Payment to in-lieu fee program<br><input type="checkbox"/> Permittee Responsible Mitigation   |          |
| <b>3. Complete if Using a Mitigation Bank</b>   |  |          |
| 3a. Name of Mitigation Bank: not applicable   |  |          |
| 3b. Credits Purchased (attach receipt and letter)   | Type   | Quantity |
| 3c. Comments:   |  |          |
| <b>4. Complete if Making a Payment to In-lieu Fee Program</b>   |  |          |
| 4a. Approval letter from in-lieu fee program is attached.   | <input type="checkbox"/> Yes   |          |
| 4b. Stream mitigation requested:  | linear feet  |          |
| 4c. If using stream mitigation, stream temperature:   | <input type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold  |          |
| 4d. Buffer mitigation requested (DWQ only):   | square feet  |          |
| 4e. Riparian wetland mitigation requested:  | acres  |          |
| 4f. Non-riparian wetland mitigation requested:  | acres  |          |
| 4g. Coastal (tidal) wetland mitigation requested:   | acres  |          |
| 4h. Comments:   |  |          |
| <b>5. Complete if Using a Permittee Responsible Mitigation Plan</b>   |  |          |
| 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.<br>Reason for impact | 6d.<br>Total impact<br>(square feet) | Multiplier        | 6e.<br>Required mitigation<br>(square feet) |
|--|--------------------------|--------------------------------------|-------------------|---|
| Zone 1                                       |                          |                                      | 3 (2 for Catawba) |   |
| Zone 2                                       |                          |                                      | 1.5               |   |
| <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 not, explain why.<br>Comments:  | <input type="checkbox"/> Yes <input 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:<br>See attached permit drawings. |   |
| 2e. Who will be responsible for the review of the Stormwater Management Plan?  | <input type="checkbox"/> Certified Local Government<br><input type="checkbox"/> DWQ Stormwater Program<br><input checked="" 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<br><input type="checkbox"/> NSW<br><input type="checkbox"/> USMP<br><input type="checkbox"/> Water Supply Watershed<br><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<br><input type="checkbox"/> HQW<br><input type="checkbox"/> ORW<br><input type="checkbox"/> Session Law 2006-246<br><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 <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  |

| <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.)<br><br>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<br><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.<br><br>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.<br><br>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 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     |
| <p>5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat?</p> <p>Only two Endangered and Threatened species are listed for Cabarrus County, the Carolina heelsplitter and Schweinitz's sunflower. A survey for the Carolina heelsplitter was conducted by NCDOT biologists on November 26, 2007, finding no habitat due to sediment and eroding banks, rendering a biological conclusion of "No Effect". A survey for Schweinitz's sunflower was last conducted in August 18, 2011 resulting in a biological conclusion of "No Effect". A search of the NHP database yielded no occurrences of either species within 1 mile of the project study area.</p> |  |  |
| <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?<br>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?<br>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   |  |  |
| Dr. Gregory J. Thorpe, Ph D<br>Applicant/Agent's Printed Name  | <br>Applicant/Agent's Signature<br>(Agent's signature is valid only if an authorization letter from the applicant is provided.) | 4.12.12<br>Date                        |

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

Action Id. SAW-2008-0859

County: Cabarrus

U.S.G.S. Quad: Concord

**NOTIFICATION OF JURISDICTIONAL DETERMINATION**

Property Owner/Agent:

Address:

**NC Department of Transportation,  
Natural Environment Unit, Attn: Jeremy Leamer  
1548 Mail Service Center  
Raleigh, NC 27699-1548**

Telephone No.: 919-715-7726

Property description:

Size (acres) 1.4 approx.

Nearest Waterway Reedy Creek

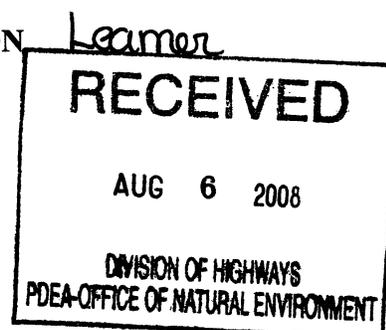
USGS HUC 03040105

Location description Bridge No. 163 on SR 1138, TIP B-4719

Nearest Town Harrisburg

River Basin Yadkin

Coordinates N 35.2922 W 80.6246



**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 on the above described property 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 and wetlands on your property 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 surface waters and/or wetlands have been delineated and surveyed and are accurately depicted on the maps provided by your consultant/agent dated \_\_\_\_\_. 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: \_\_\_\_\_

SAW-2008-0859

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 Steven Lund at 828-271-7980.

### **C. Basis For Determination**

**Stream Identification Forms and delineation map included with the submittal of March 3, 2008.**

### **D. Remarks**

**Reedy Creek is a perennial stream (RPW) flowing to the Rocky River, a traditionally navigable water (TNW). Wetlands may be present along an ephemeral channel 300 to 400 feet northwest of the bridge. Additional field investigation will be necessary if the bridge replacement impacts this area.**

### **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: Steven Lund, Project Manager,  
Asheville Regulatory Field Office  
151 Patton Avenue, Room 208  
Asheville, North Carolina 28801-5006

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 within 60 days of the date of this verification.

**\*\*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: Steven W. Lund 

Date: July 28, 2008

Expiration Date: July 28, 2013

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 attached customer Satisfaction Survey or visit <http://www.saw.usace.army.mil/WETLANDS/index.html> to complete the survey online.

Copy furnished:

## Harrod, Jennifer W

---

**From:** Lespinasse, Polly  
**Sent:** Wednesday, February 01, 2012 7:39 AM  
**To:** Harrod, Jennifer W  
**Cc:** Hair, Sarah E SAW  
**Subject:** RE: B-4719 Cabarrus Co. - Question

Jennifer,

I went out to this site on Monday to evaluate the feature that was identified on the map. Based on the site visit, DWQ would consider this feature to be an intermittent stream. The only biology identified was isopods and amphipods. Crayfish burrows were visible on the sides and tops of the streambanks. Additionally, this stream branches and dumps into Reedy Creek at another point located just west of the one in question so that branch would also be jurisdictional. I also agree with Steve Lund's comment about the possibility of wetlands existing in the northwest corner. I don't know if that was ever evaluated by anyone (sounds like it might be out of the project limits). If you need anything additional (or something more formal), please let me know.

Thanks.

-----Original Message-----

**From:** Harrod, Jennifer W  
**Sent:** Friday, January 27, 2012 8:20 AM  
**To:** Lespinasse, Polly  
**Subject:** RE: B-4719 Cabarrus Co. - Question

Hey Polly,

Sorry I didn't get this until today, I've been out in the field on an overnight. Feel free to stop by in conjunction with other field work you have going on. Just give me a call while you are there if you have any questions. My office number is (919)707-6124 and my cell phone is (336)508-0050.

Let me know what you find.

Thanks,  
Jennifer Harrod  
PDEA-NEU  
(919)707-6124

-----Original Message-----

**From:** Lespinasse, Polly  
**Sent:** Wednesday, January 25, 2012 8:09 AM  
**To:** Harrod, Jennifer W  
**Subject:** RE: B-4719 Cabarrus Co. - Question

Jennifer,

If you would like, I can just run out there and let you know what I find. I will probably be down that way tomorrow anyway. I have checked my notes and files and haven't been successful finding anything related to this project.

Let me know if that works for you.

Thanks.

-----Original Message-----

From: Harrod, Jennifer W  
Sent: Tuesday, January 24, 2012 1:33 PM  
To: Lespinasse, Polly  
Subject: B-4719 Cabarrus Co. - Question

Hey Polly,

This e-mail is in reference to B-4719 in Cabarrus County, the replacement of Bridge No. 163 on SR 1138 (Hickory Ridge Road) over Reedy Creek.

I inherited this project from Jeremy Leamer and just wanted to get some clarification on some past activity.

A Jurisdictional Determination Request was sent on March 3, 2008 for a UT to Reedy Creek that was identified as an intermittent system in the request. Corresponding Stream ID Forms for the UT to Reedy Creek however show that each section scored out to be ephemeral. Jeremy did note however that severe drought conditions existed.

A Jurisdictional Determination from Steve Lund of the USACE (SAW-2008-0859) was issued on July 28, 2008 and included the following remark: Reedy Creek is a perennial stream (RPW) flowing to the Rocky River, a traditionally navigable water (TNW). Wetlands may be present along an ephemeral channel 300 to 400 feet northwest of the bridge. Additional field investigations will be necessary if the bridge replacement impacts this area. Jeremy did note that Steve's determination was conducted via desk top.

There is no documentation in my files indicating any correspondence between DWQ and Jeremy at that time. However, Jeremy recalled a phone conversation with you regarding the project and your assessment of potential wetlands in the northwest quadrant; this portion is no longer in the footprint of the project. However, he does not recall speaking about the UT in question.

As per the roadway drawings currently being drafted a portion of the UT to Reedy Creek will be impacted. Thus a stream call is required in order to accurately depict stream impact amounts. Was a stream call made for the UT to Reedy Creek referenced in the JD Request Letter? If not, would you like me to set up a field verification meeting with you to resolve the issue?

Please see attached for your reference a copy of the JD Request Letter, Jurisdictional Determination Letter and Stream Forms.

Thank you,  
Jennifer Harrod  
PDEA-NEU  
(919)707-6124

---

Email correspondence to and from this sender is subject to the N.C. Public Records Law and may be disclosed to third parties.



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



(Version 1.2, Released September 2014)

Project/TIP No.: B-4719 County(ies): Cabarrus

General Project Information

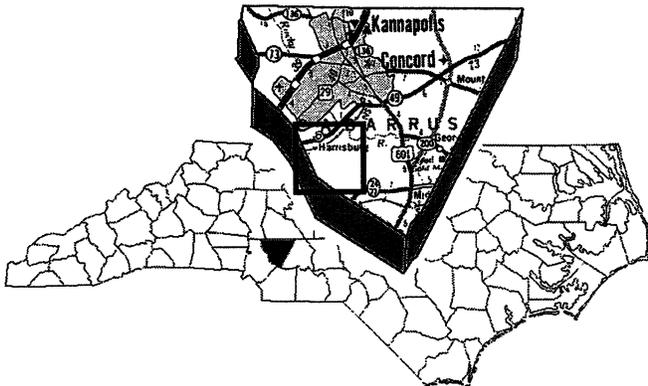
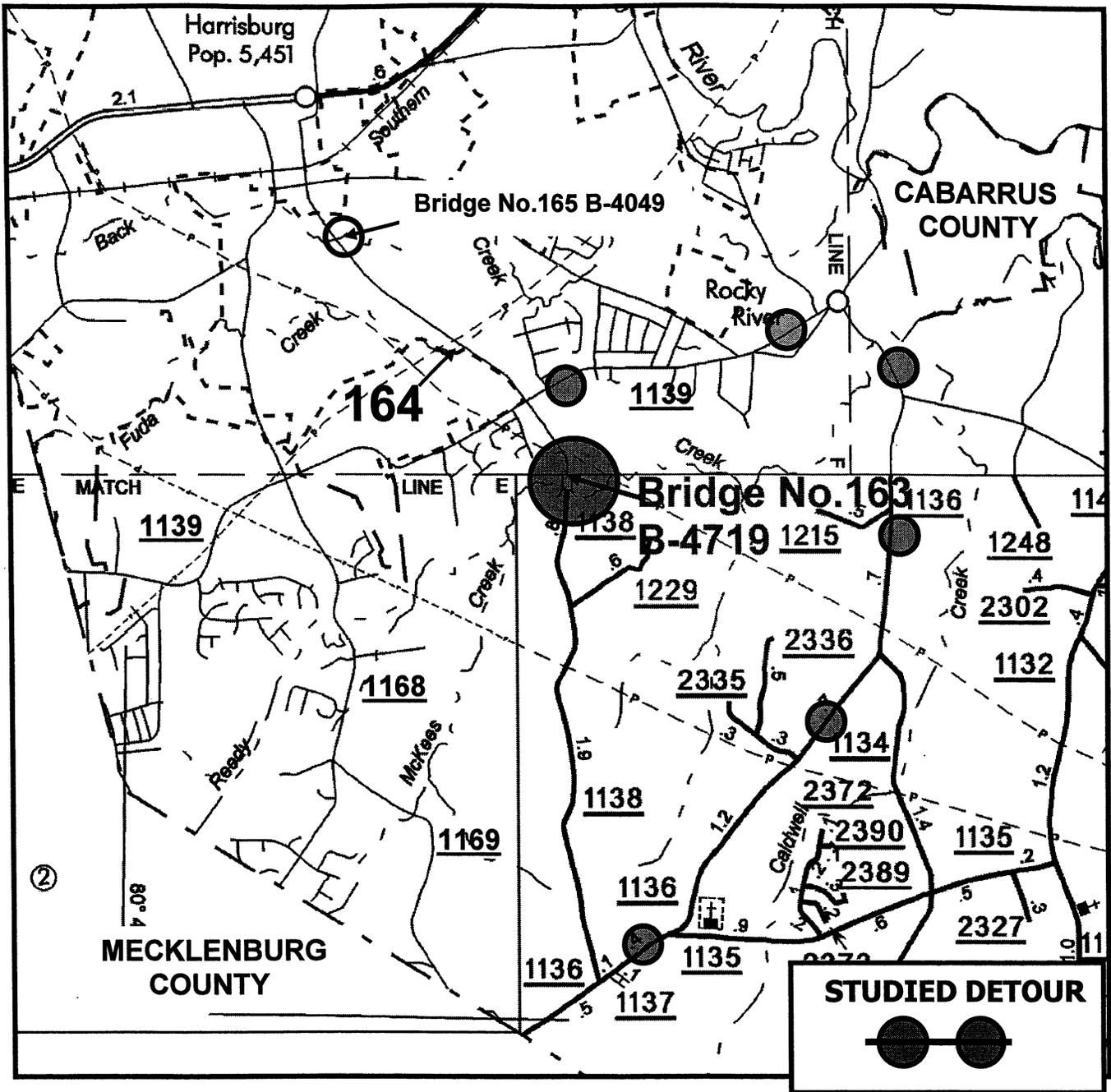
|  |                                    |                         |                                    |       |           |
|--|------------------------------------|-------------------------|------------------------------------|-------|-----------|
| Project No.:   | B-4719                             | Project Type:           | Bridge Replacement                 | Date: | 2/16/2012 |
| NCDOT Contact:   | Galen Cail, PE                     | Contractor / Designer:  | Jerry Snead, PE                    |       |           |
| Address:   | MSC 1590<br>Raleigh NC, 27699-1590 | Address:                | MSC 1590<br>Raleigh NC, 27699-1590 |       |           |
| Phone:   | 919-707-6700                       | Phone:                  | 919-707-6700                       |       |           |
| Email:   | gcail@ncdot.gov                    | Email:                  | jsnead@ncdot.gov                   |       |           |
| City/Town:   | Yadkin-Pee Dee                     | County(ies):            | Cabarrus                           |       |           |
| River Basin(s):  | Yadkin-Pee Dee                     | CAMA County?            | No                                 |       |           |
| Primary Receiving Water:                                       |                                    | NCDWQ Stream Index No.: | 13-17-8                            |       |           |
| NCDWQ Surface Water Classification for Primary Receiving Water |                                    | Primary:                | Class C                            |       |           |
| Other Stream Classification:                                   |                                    | Supplemental:           | None                               |       |           |
| 303(d) Impairments:  | biological impairment              |                         |                                    |       |           |
| Buffer Rules in Effect   | N/A                                |                         |                                    |       |           |

Project Description

|                                      |   |                       |  |
|--------------------------------------|---|-----------------------|--|
| Project Length (lin. Miles or feet): | 0.04 mi.  | Surrounding Land Use: | Rural/residential/agricultural or forest |
| Project Built-Upon Area (ac.)        | 0.20  | Proposed Project      | Existing Site                            |
| Typical Cross Section Description:   | 2-11' lanes, 4' paved shoulders   |                       | 0.16 ac.                                 |
| Average Daily Traffic (veh/hr/day):  | Design/Future: 6700   |                       | 2-10' lanes, 2, grass shoulders          |
| General Project Narrative:           | This project involves in-kind bridge replacement at existing location. Traffic will be detoured offsite on existing routes during construction. |                       |  |

References





|  |  |
|--|--|
|  | NORTH CAROLINA DEPARTMENT OF<br>TRANSPORTATION<br>DIVISION OF HIGHWAYS<br>PROJECT DEVELOPMENT &<br>ENVIRONMENTAL ANALYSIS BRANCH |
|  | <b>CABARRUS COUNTY</b><br><b>REPLACE BRIDGE NO. 163 ON SR 1138</b><br><b>OVER REEDY CREEK</b><br><b>B-4719</b>                   |
| Figure 1   |  |

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

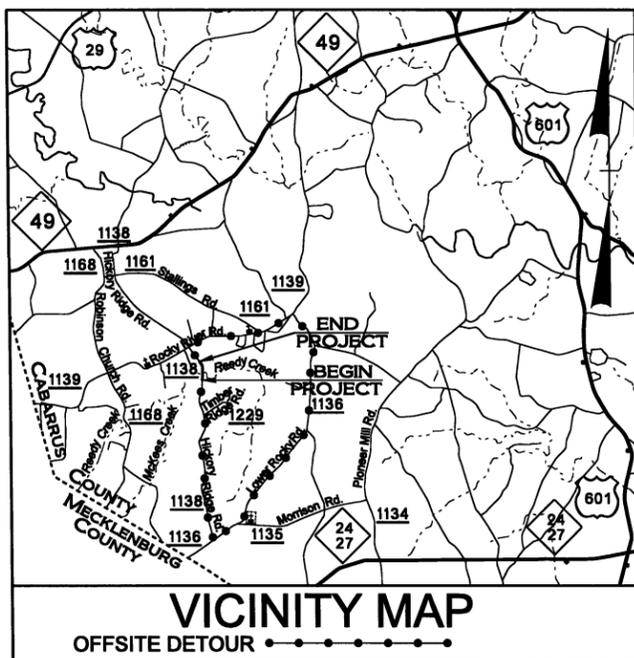
**CABARRUS COUNTY**

LOCATION: BRIDGE NO. 163 OVER REEDY CREEK ON  
SR 1138 (HICKORY RIDGE RD.)

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

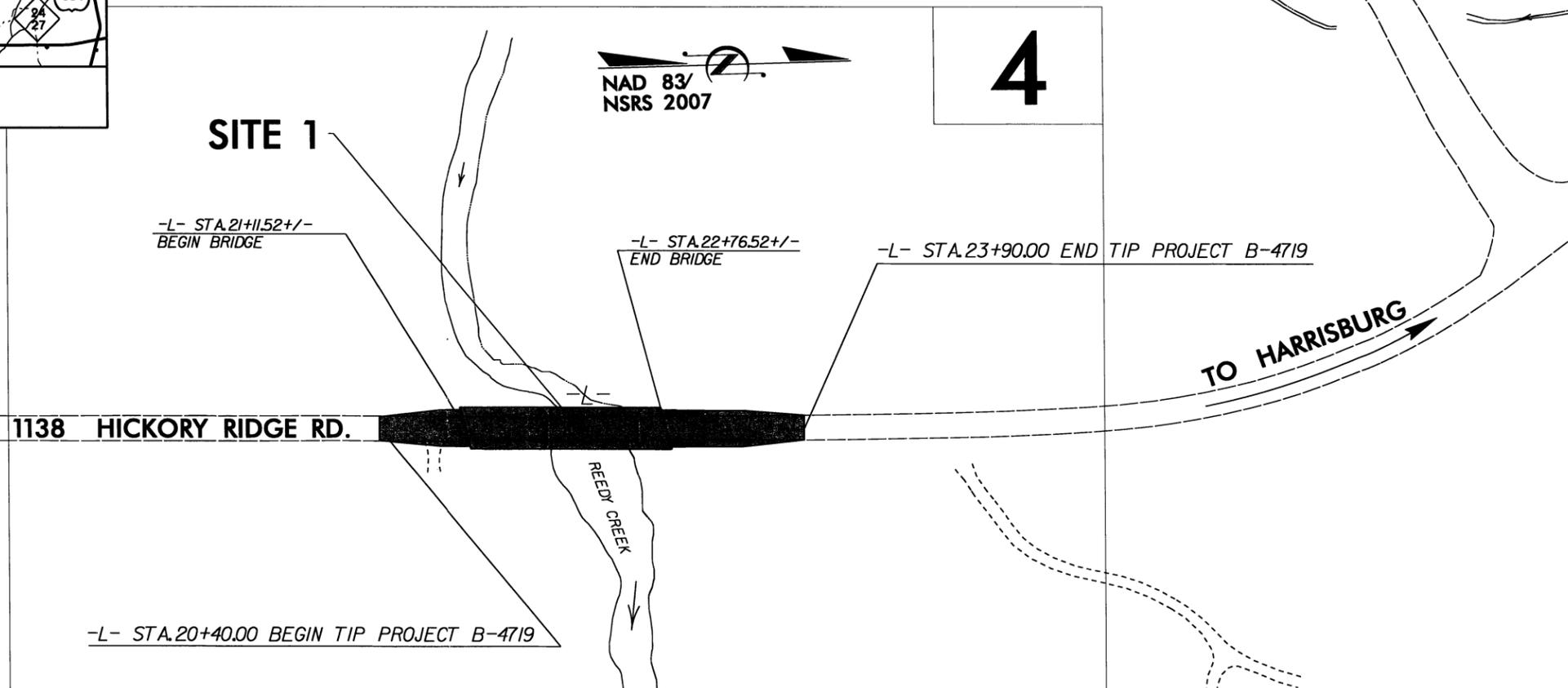
**STREAM IMPACTS**

|                 |                             |             |              |
|-----------------|-----------------------------|-------------|--------------|
| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
| N.C.            | B-4719                      | 1           |              |
| STATE PROJ. NO. | F.A. PROJ. NO.              | DESCRIPTION |              |
| 38493.1.1       | BRZ-1138 (15)               | PE          |              |
| 38493.2.1       | BRZ-1138 (15)               | RW & UTIL   |              |
|                 |                             |             |              |
|                 |                             |             |              |
|                 |                             |             |              |



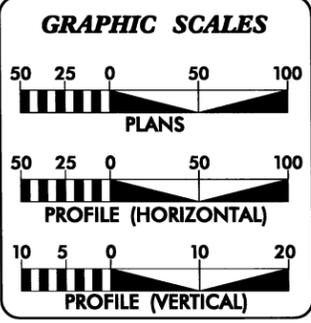
TIP PROJECT: B-4719

CONTRACT:



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

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



**DESIGN DATA**

|                       |        |
|-----------------------|--------|
| ADT 2012 =            | 2525   |
| ADT 2035 =            | 6700   |
| DHV =                 | 55 %   |
| D =                   | 11 %   |
| *T =                  | 6 %    |
| V =                   | 50 MPH |
| (RURAL LOCAL)         |        |
| SUB-REGIONAL TIER     |        |
| * TTST 5 % + DUAL 1 % |        |

**PROJECT LENGTH**

|  |          |
|--|----------|
| LENGTH OF ROADWAY TIP PROJECT B-4719 =   | 0.038 MI |
| LENGTH OF STRUCTURE TIP PROJECT B-4719 = | 0.028 MI |
| TOTAL LENGTH OF TIP PROJECT B-4719 =     | 0.066 MI |

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
NOVEMBER 22, 2011

LETTING DATE:  
DECEMBER 18, 2012

G. E. BREW PE  
PROJECT ENGINEER

W. T. BEST  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

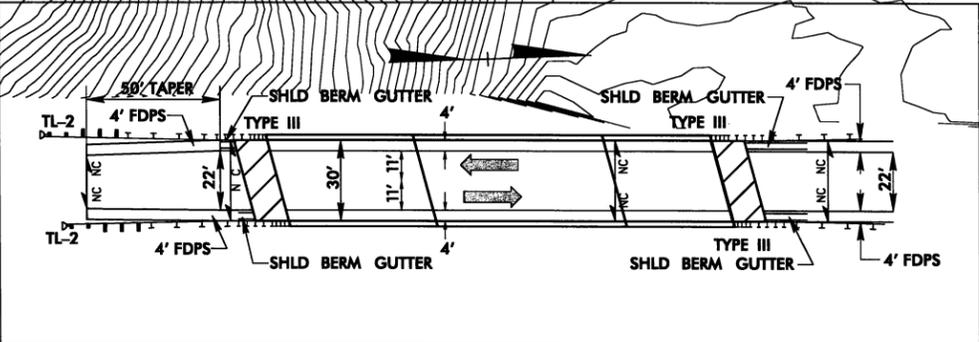
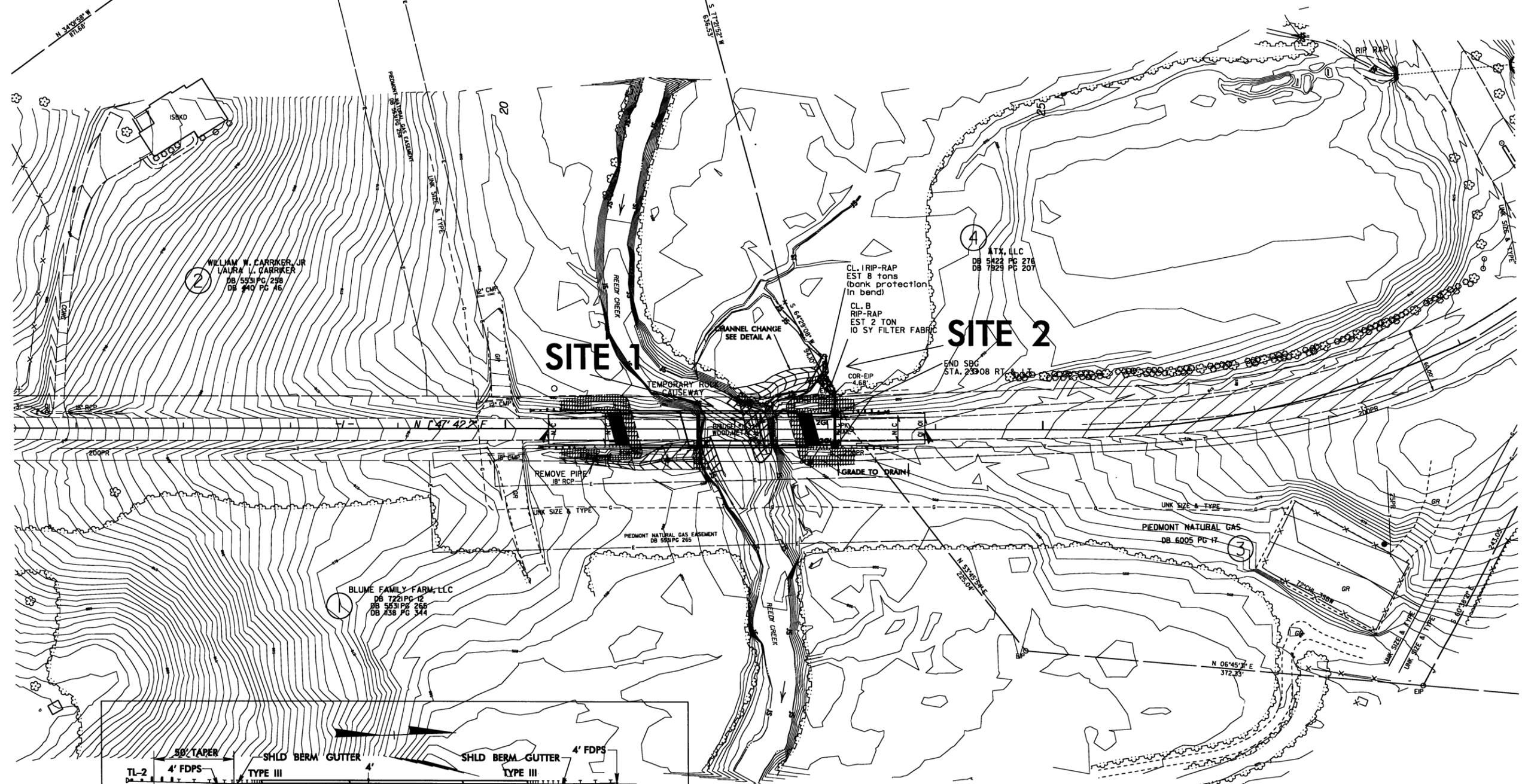
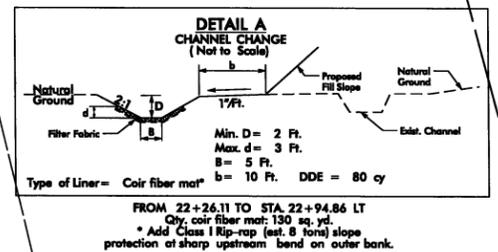
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.



|   |                      |
|---|----------------------|
| PROJECT REFERENCE NO.<br>B-4719                         | SHEET NO.<br>4 of 10 |
| RW SHEET NO.  |                      |
| ROADWAY DESIGN ENGINEER                                 | HYDRAULICS ENGINEER  |
| <b>PRELIMINARY PLANS</b><br>DO NOT USE FOR CONSTRUCTION |                      |

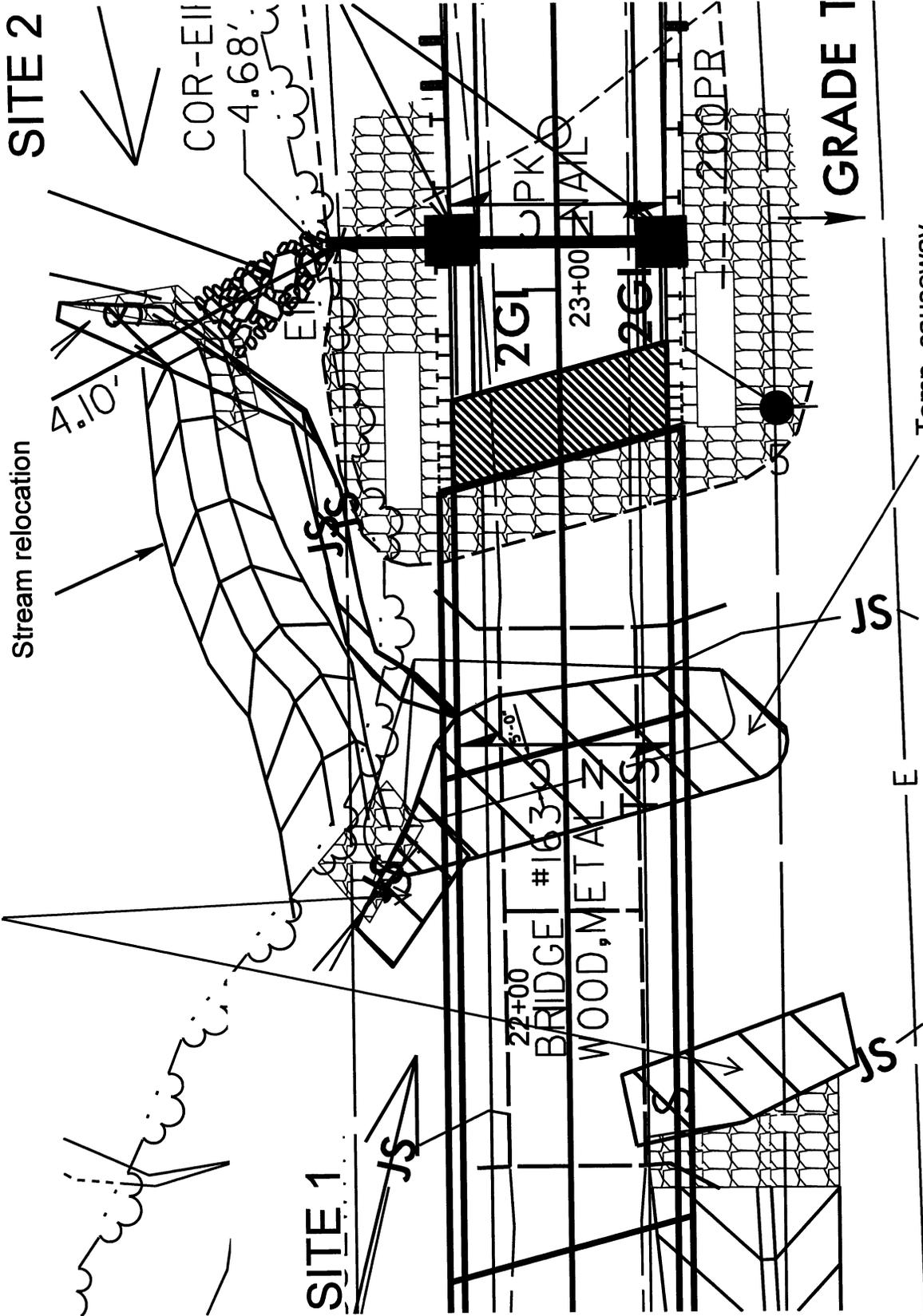
NAD 83/  
NSRS 2007



DENOTES IMPACTS IN SURFACE WATER  
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



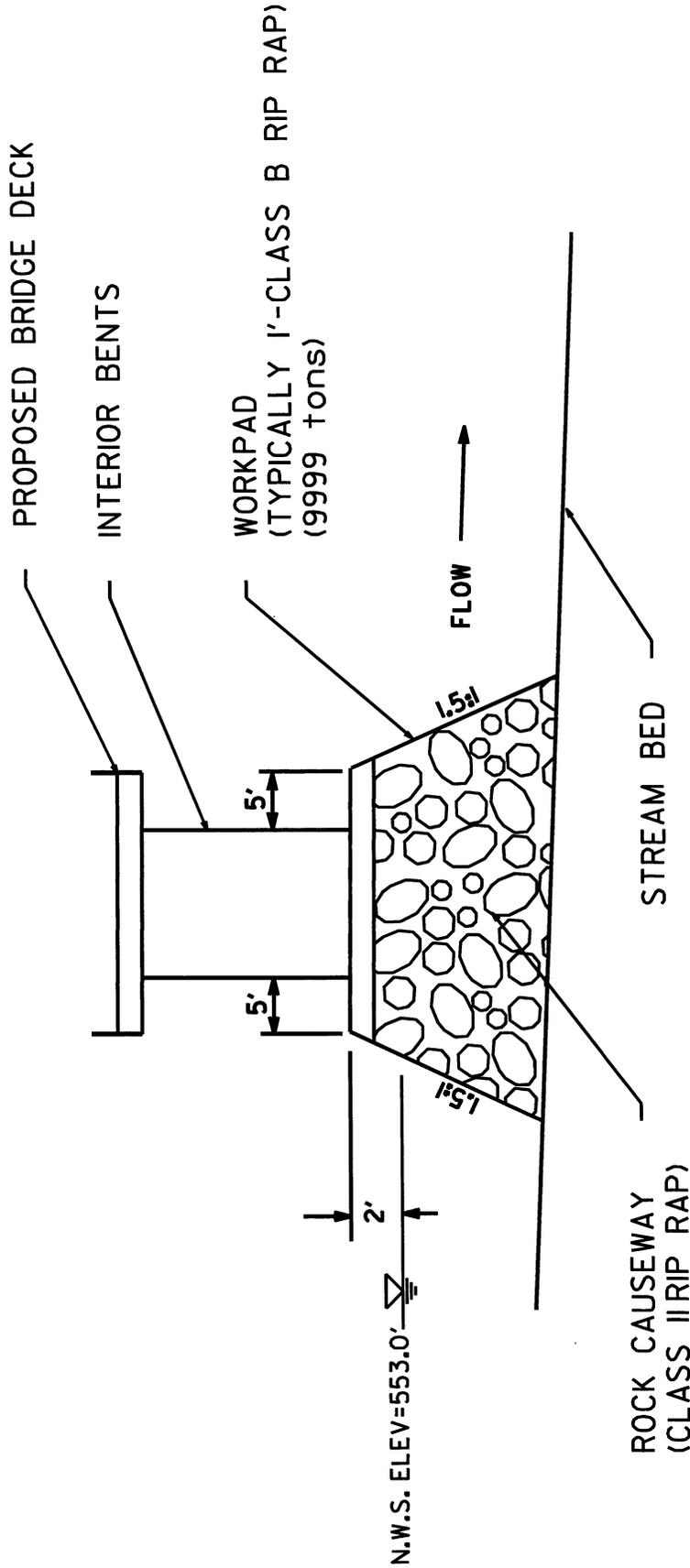
Bank protection



B-4719 Close-up view of impact sites

SCALE 1" = 20'

# WORKPAD DETAIL (NOT TO SCALE)



**NCDOT**  
 DIVISION OF HIGHWAYS  
 CABARRUS COUNTY  
 PROJECT: 38-493.1.1 (B-4719)

BRG. 163 ON SR 1138  
 OVER REEDY CREEK

Sheet 7 of 10 **2/12**

QUANTITIES OF ESTIMATES  
 VOLUME OF CLASS II RIP RAP= 9999 cy  
 AREA OF CLASS II RIP RAP= 0.000c  
 ESTIMATE 9999 TONS CLASS II RIP RAP

# PROPERTY OWNERS

NAMES AND ADDRESSES

| PARCEL NO. | NAMES  | ADDRESSES |
|------------|--|-----------|
| 3          | Piedmont Natural Gas<br>4720 Piedmont Row Dr<br>Charlotte NC 28210                             |           |
| 1          | Blume Family Farm, LLC<br>1217 Crescent Ave<br>Gastonia NC 28052                               |           |
| 2          | Carriker Jr. William W.<br>Laura L. Carriker<br>9058 Hickory Ridge Road<br>Harrisburg NC 28075 |           |
| 4          | ATX, LLC<br>8810 Hickory Ridge Road<br>Harrisburg NC 28075                                     |           |

**NCDOT**  
DIVISION OF HIGHWAYS  
CABARRUS COUNTY  
PROJECT: R/W 112 SR 1129  
DRG. # 145 ON SR 1129  
OVER REEDY CREEK

**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              | 21+89 RT (Reedy Creek)          | CL II riprap bank protection |                                 |                             |                             |                                      |                                |                           | 0.01                  |   |                                     | 35                         |    |  |
| 1              | 22+06/22+26 LT (Reedy Cr)       | CL II riprap bank protection |                                 |                             |                             |                                      |                                | 0.01                      |                       |   | 20                                  |                            |    |  |
| 1              | 22+24/22+45 (Reedy Creek)       | CAUSEWAY                     |                                 |                             |                             |                                      |                                |                           |                       | 0.020                                   |                                     |                            | 60 |  |
| 2              | 22+40/22+96 LT (UT to Reedy Cr) | Stream relocation            |                                 |                             |                             |                                      |                                |                           |                       |   | 80                                  |                            |    |  |
| <b>TOTALS:</b> |                                 |                              |                                 |                             |                             |                                      |                                | 0.02                      |                       | 0.02                                    | 135                                 |                            | 60 |  |

BRIDGE BENTS IMPACT AREA: 21 SQ. FT.

TOTAL BRIDGE BENTS IMPACT AREA WILL NOT EXCEED 0.01 ACRE OF FILL

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

COUNTY  
WBS - 38493.1.1 (B-4719)

SHEET 2 of 10 3/16/2012

ATN Revised 3/31/05





6/2/99

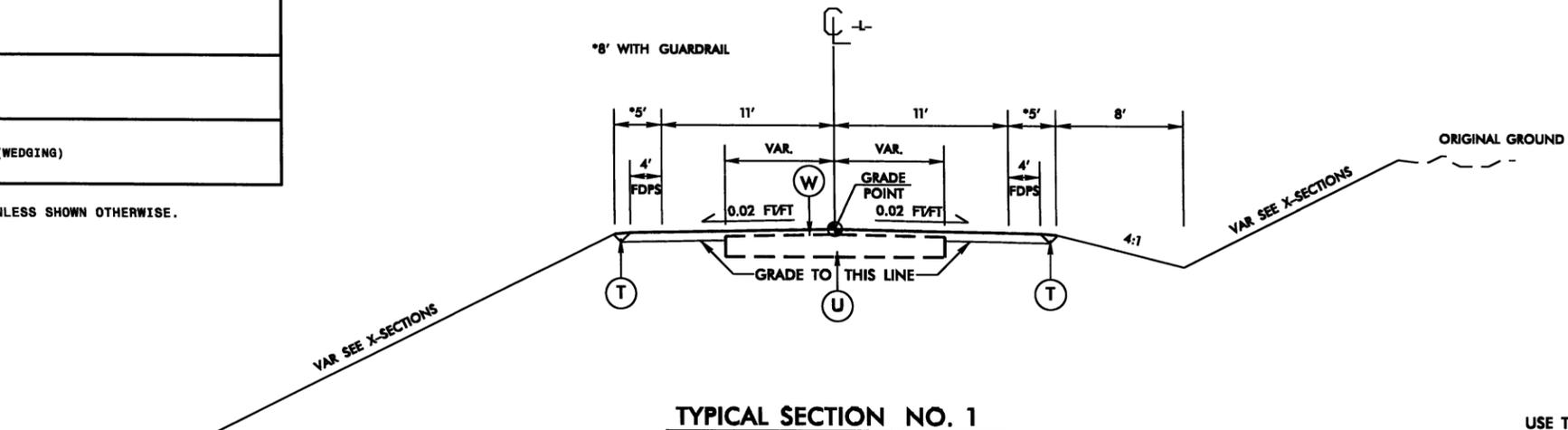
04-APR-2011 09:16  
\\s01-4719-rdj-tpd.dgn  
11:48:58 AM

**PAVEMENT SCHEDULE**  
(PRELIMINARY PAVEMENT DESIGN)

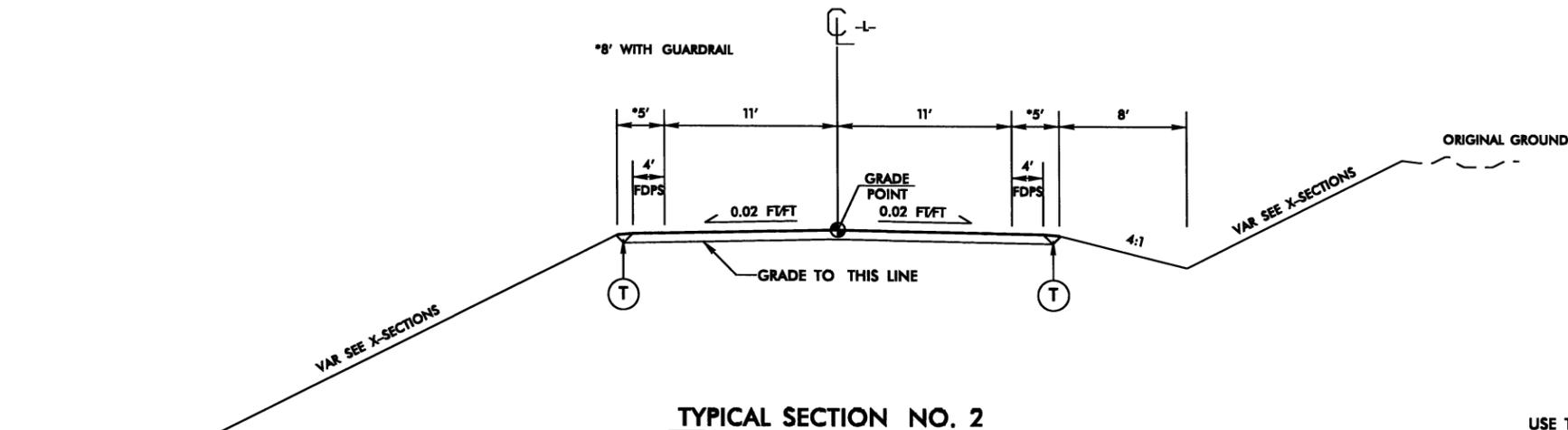
|   |  |
|---|--|
| T | EARTH MATERIAL.                            |
| U | EXISTING PAVEMENT.                         |
| W | VARIABLE DEPTH ASPHALT PAVEMENT. (WEDGING) |

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

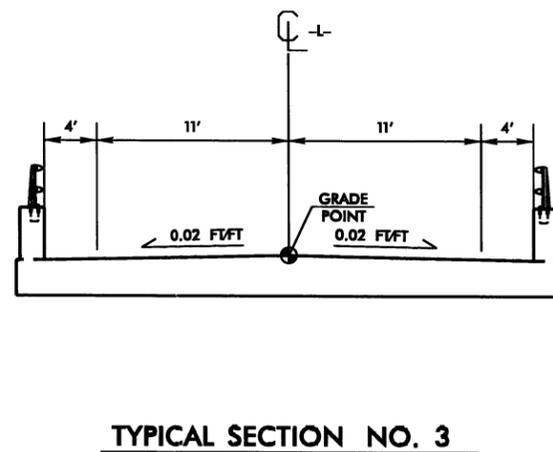
|  |                          |
|--|--------------------------|
| PROJECT REFERENCE NO.<br>B-4719  | SHEET NO.<br>2           |
| ROADWAY DESIGN ENGINEER  | PAVEMENT DESIGN ENGINEER |
| <b>INCOMPLETE PLANS</b><br><small>DO NOT USE FOR ACQUISITION</small><br><b>PRELIMINARY PLANS</b><br><small>DO NOT USE FOR CONSTRUCTION</small> |                          |



USE TYPICAL SECTION NO. 1  
 FROM -L STA. 20+40.00 TO 20+90.00  
 TRANSITION FROM EXISTING TO TYP. SECTION 1  
 -L STA. 20+90.00 TO 21+15.44  
 -L STA. 23+15.44 TO 23+40.00  
 FROM -L STA. 23+40.00 TO 23+90.00  
 TRANSITION FROM TYP. SECTION 1 TO EXISTING



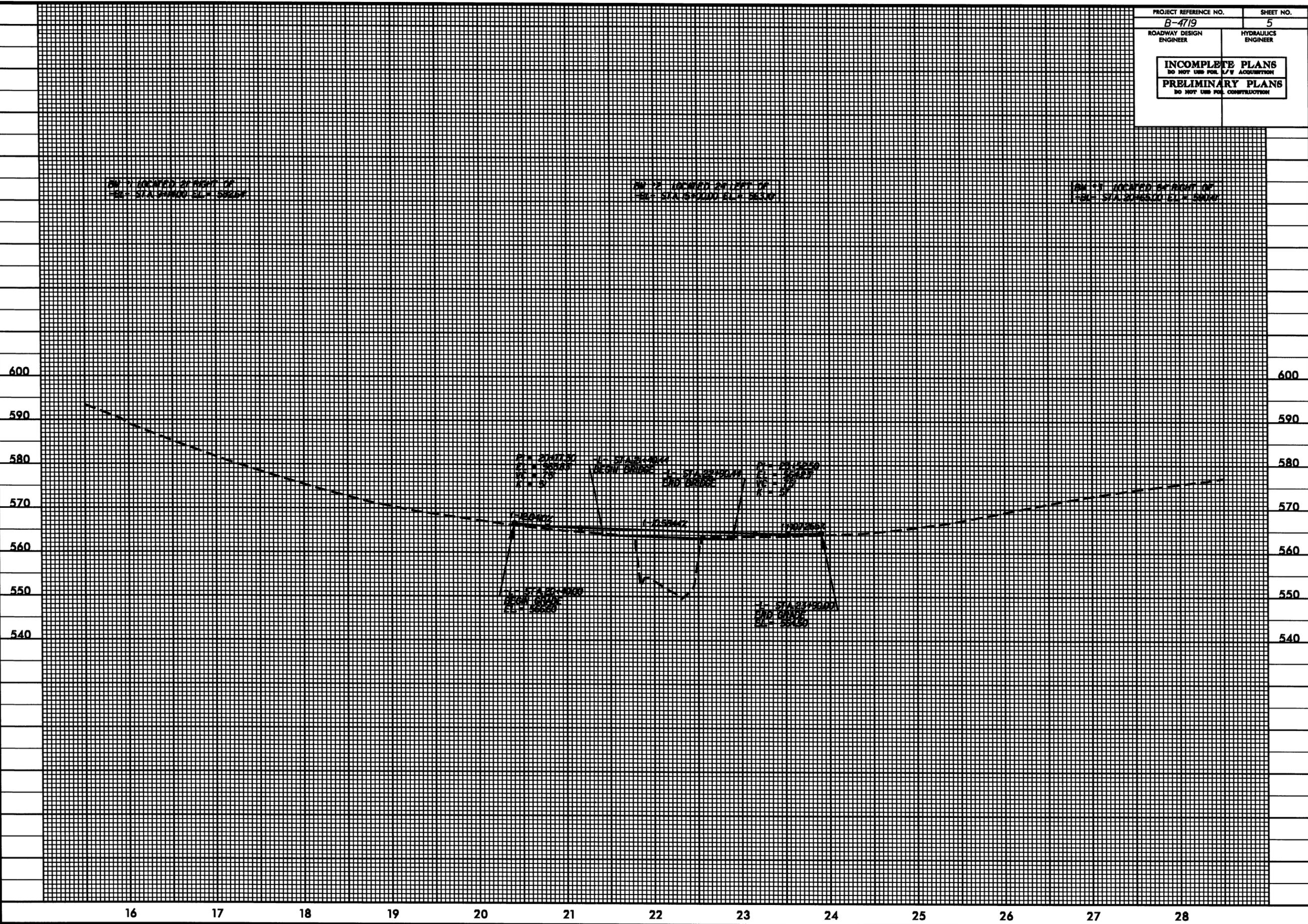
USE TYPICAL SECTION NO. 2  
 -L STA. 21+15.44 TO 21+40.44 (BEGIN BRIDGE)  
 -L STA. 22+90.44 (END BRIDGE) TO 23+15.44



USE TYPICAL SECTION NO. 3  
 -L STA. 21+40.44 TO 22+90.44

5/14/99

|   |                        |
|---|------------------------|
| PROJECT REFERENCE NO.<br>B-4719                           | SHEET NO.<br>5         |
| ROADWAY DESIGN<br>ENGINEER                                | HYDRAULICS<br>ENGINEER |
| <b>INCOMPLETE PLANS</b><br>DO NOT USE FOR A/C ACQUISITION |                        |
| <b>PRELIMINARY PLANS</b><br>DO NOT USE FOR CONSTRUCTION   |                        |



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